# Lectures
ON
# PRACTICAL LEGAL MEDICINE.

*Being the Post-Graduate Course delivered at St. Mary's Hospital,*

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## LECTURE II.

### SPECIAL POST-MORTEM EXAMINATIONS.

GENTLEMEN,—My lecture to-day will treat of a series of special post-mortem examinations, made for the purpose of supplying evidence before a legal tribunal. I speak of them as special on account of some mystery which surrounded the death; or because unusual care was required in the necessary manipulation; or, lastly, because the facts ascertained were liable to doubtful interpretation. Our system of teaching forensic medicine is, according to my experience, singularly faulty, excepting the toxicological section. I do not remember to have seen a post-mortem examination made in the schools with the object of illustrating questions that might arise in civil suits or criminal trials. This defect in the curriculum of medical education I have found, as examiner, reflected by the answers of candidates at examinations. The application of medical knowledge to the administration of justice is one of the highest functions of our profession, and yet the practitioner is left to acquire his education in applied legal medicine after he has become qualified. Apart from the knowledge of poisons, most of our examining bodies require very scanty proof of the candidate's acquaintance with practical jurisprudence. It is no wonder, then, that many mistakes are made in medico-legal investigations. I have frequently been impressed, when demonstrating some particular method of examining the cadaver, by the remarks of medical men that whilst students they had learnt so little of the subject. It is to be hoped that ere long the neglect here complained of will be remedied.

We will take for our first study the question of *criminal abortion*, and discuss the post-mortem procedure for its elucidation. Now, if we exclude the effects of mechanical injuries and the detection of abortifacients, there are no signs which would warrant a medical man in saying that an abortion had been criminally induced or attempted. The ascertainable causes of natural abortion are numerous, and beyond this there is a large residuum of cases which it is wellnigh impossible to explain by examination of the dead body. In giving evidence, therefore, it is necessary to be very guarded in stating an opinion. The necropsy is performed in order to determine—(1) whether an abortion has taken place; (2) in that event, whether naturally or criminally. Careful inspection should be made of the external genitals, and of the adjacent parts of the buttocks, thighs, and abdomen, to see if there be any punctured wounds; for the criminal abortionist, being either unskilled or acting with trepidation, often inflicts injuries unnecessary to his purpose. Moreover, the uterus has been intentionally punctured through the abdominal wall. Do not make a digital or instrumental examination of the vagina *in situ*, for the information you would gather thereby would be limited, and you are liable to make abrasions which would complicate further inquiry. Open the abdomen by a longtitudinal incision, and divide the recti muscles at their insertion, so as to give ample view of the pelvic contents, and to avoid rough handling of the latter. Put a double ligature on the lower part of the sigmoid flexure. Note the presence and degree of peritonitis, pelvic cellulitis, or pelvic adhesions, old or recent. Search for a punctured wound of the anterior wall of the uterus, and for the correspondence of such with a puncture of the abdominal wall. The uterus and its appendages, the rectum and bladder, are to be removed *en masse*. If the pregnancy has not advanced beyond the third month (I am assuming that the womb has not been emptied), there will be no occasion to do more than to divide the soft structures binding the aforesaid viscera to the pelvis, to make externally an incision surrounding the vulva and rectum, and then to free the entire mass by passing the knife around the pelvic outlet, keeping the edge directed outwards. By gentle traction the structures thus detached can be lifted without injury from the pelvis. If the pregnancy is further advanced, it is better to saw through the pubic bones outside the spines, for the uterus impinges on the pubic crest, and in trying to make the subpubic incisions you would have to pull the uterus upwards, and this might entail rupture of the membranes or laceration of the placenta—a mishap I once witnessed. Now lay the parts removed on a clean slab or dish, with the bladder upwards. Take a pair of scissors with shot-guarded points and open the bladder by a median incision, and the vagina in like manner. Examine the latter for foreign bodies, for any discharge, and for punctures or lacerations. Cleanse the mucous membrane by a stream of water, and not by wiping or scraping. Note the character of any wounds, and make an incision through them to ascertain the depth to which the blood has been extravasated. A wound made accidentally during the examination will be free from hæmorrhage in the tissues around it. Do not forget that the vagina may be wounded by a legal procuration of abortion; by an attempt to extract the products of conception in an abortion naturally commenced; or by the use of instruments for examination of the passages or for cleansing them. So, too, the os uteri may be lacerated by parturition. But the wounds inflicted in criminal abortion are commonly punctured, and, if lacerated, they are usually far more extensive than would be caused by lawful manipulation. The criminal abortionist, I repeat, generally uses greater violence than is necessary to accomplish the ends he has in view. Next, the cavity of the uterus should be opened by a median longitudinal incision with the blunt-pointed scissors. Examine what contents there may be, noting particularly any laceration or detachment of the placenta; then carefully remove the contents and look for injuries of the uterine wall, and note if they correspond in direction with similar injuries of the vagina or cervix. In July, 1884, a woman was admitted moribund into University College Hospital. Before admission she had been attended by a nurse, and the medical man in charge suspected typhoid fever, for there had been profuse diarrhœa, with pain and swelling of the abdomen. Before the doctor saw her the hæmorrhage of abortion had been construed as profuse menstruation. I assisted at the post-mortem examination. There were punctured wounds of the skin on each side of the vulva. There were punctured and lacerated wounds of the labia and vagina. The posterior lip of the os uteri was bruised. The uterus, which with the ovaries attached weighed thirteen ounces, was empty. There was a large, circular, sloughy, raised surface on the posterior wall, the placental site; on the anterior wall there was a smaller elongated sloughy patch, as if the tissue had been ploughed up. In a line with this there was a linear laceration of the cervix. All these wounds had been inflicted during life. At the inquest the jury returned an open verdict. The case is instructive in many ways: the simulation of natural disease, the failure of detection of the real condition, and lastly, the gross outrage which had been committed.

If the abortion has been procured at an early date—that is, under the third month,—and the uterus has been entirely evacuated, it might be contended at the inquest or trial that pregnancy had not occurred, but that the enlargement of the uterus was due to disease of its structure. Even in these cases you will rarely fail to establish the facts independently of non-medical evidence, circumstantial or direct. If the placenta has only just formed, you may find portions hanging like fringes at the site of attachment. At an earlier date you will see a circular patch where the mucous membrane is flocculent from villosity, or, if smooth, it will be more vascular than the lining membrane of the uterus generally. This was the condition of the uterus in the Turnbull case tried at the Central Criminal Court on January 15th, 1886. If there is peritonitis, search for wounds of the pelvic peritoneum. The inflammation, however, has generally spread in continuity from the uterus along the Fallopian tubes, in which event the latter will contain purulent fluid. There may be pelvic cellulitis or abscess with or without peritonitis. You will of course look for signs of blood-poisoning in distant parts. Turnbull was committed for trial for having illegally procured abortion on two women—Clifford and Burton. At the post-

mortem I found purulent peritonitis in the one case, and pelvic abscess in the other.

If practicable, examine the ovaries for a *corpus luteum* before removing the viscera from the pelvis. Our principal text-books on Forensic Medicine—Guy and Taylor—appraise with very different values the corpus luteum as trustworthy evidence of recent pregnancy. Taylor, although admitting that the corpus luteum undergoes a higher development if conception takes place, argues mainly to the end that there are too many exceptions to the general rule to allow of its being considered of much worth, save by way of corroboration of the evidence afforded by other signs of pregnancy. The view just stated is the one which prevails with the majority of medical jurists, who maintain that in the early stages of pregnancy the corpus luteum is not sufficiently distinctive, whilst at a later period it is not required, since there are other signs of greater import. From a number of observations, I feel inclined to attach greater weight to the corpus luteum. In the case of the woman Clifford the pregnancy had advanced two and a half months; the uterus was found to have been entirely emptied of the products of conception, and I can conceive that the question of pregnancy from an examination of the uterus alone might have been challenged, but in the right ovary there was a deep orange-coloured corpus luteum five-eighths of an inch in diameter,—a development I believe to be inconsistent with the theory of changes dependent simply on menstruation. The absence of the usual growth of the corpus luteum may not be of much value as a negative sign; for in the woman Burton, although pregnancy had reached the end of the third month the corpus luteum was insignificant, its growth having been impeded by fibroid induration of the ovarian capsule.

Of course, you will not fail to examine the rectum for foreign bodies, for the effects of irritant or corrosive poisons, and for signs of mechanical injury. Criminal abortion by mechanical means is sometimes induced by self-injury, and it may be by the use of some such instrument as a skewer or knitting-needle. Now, although the mutilation of the parts cannot with certainty be told from injuries inflicted by another person, there are some points that might justify you in giving an opinion, and even a strong one, as to the probability of its source. If the punctures are confined to, or mainly situated in, the posterior wall of the vagina, they are not unlikely to have been made by the woman herself, and if at the same time the uterus is free from all evidence of violence the view just enunciated is greatly strengthened. If the abortion had been induced by a medical man, there would in all likelihood be an absence of grave vaginal injuries; and, assuming their presence, they would, I believe, be accompanied by uterine punctures, lacerations, or abrasions. If the abortion had been procured by an ignorant and unskilful person other than the victim, the injuries would probably be greater than a woman would be likely to inflict on herself. The testimony you could give in such a case, considered apart from collateral evidence, would not justify a coroner's jury in returning a verdict of murder or manslaughter, but it would warrant them in leaving the question an open one, and so recording it.

I will now direct your attention to the *examination of the cranium and its contents*. No other part of the body affords greater scope for careful discrimination of the results of injuries and disease. If you hold a skull up to the light, the cranial vertex having been removed, you will see that it is translucent at the orbital roof and in the temporal and cerebellar fossæ, and hence that in these regions it would be easy to fracture the bone. Such injuries would be more frequent than they are but for the natural means of protection. The cerebellar plate is guarded by a mass of muscles at the back of the neck, the squamosal bone is covered by the temporal muscle, and the orbit is shielded by the organ of vision. The brain may be penetrated by accident or design by a thrust through the roof of the orbit, so look for a punctured wound beneath the upper eyelid. It is common knowledge that death is not rarely caused by blows on the temple, the brain being lacerated by splinters of bone. At an assize trial a man was convicted of manslaughter by striking his victim on the temple. It was urged in mitigation of punishment that the skull was unusually thin. The medical man who gave evidence stated that at its thinnest part it was no thicker than a sixpence, a condition I believe not far removed from the average. The mistake thus unconsciously made enabled the prisoner to get off with a light punishment. Whenever death is supposed to be due to an intra-cranial lesion, it is better to begin the post-mortem examination by removing the skull-cap and dissecting the brain and its membranes, for if the large veins of the neck or thorax be wounded, the blood drains off from the venous sinuses, and so their degree of fulness would be altered. Having done this, search for fracture of the bone, and for wounds or inflammation of the dura mater. Do not forget that a blow on one side of the head may injure the brain and its coverings in the immediate vicinity, or at the opposite point by *contre-coup*. On reflecting the dura mater, see if there be intra-arachnoid adhesions, suppuration, or hæmorrhage. The last is not uncommon in children dying at birth, or at a later period in chronic wasting disorders. It may also result from fierce mental excitement, even in the adult, though in these cases I suspect the vessels are in some way diseased. From these data you will be careful not to assign this form of extravasation as necessarily due to injury. The Pacchionian glands vary in size according to the age of the individual; in one instance where they were very large they were mistaken for "tumours of the brain," and they were so described in my presence. When very small they may be confounded with miliary tubercles, and it is the belief of some that they were so in the case of Mrs. Staunton—historically known as "the Penge mystery." Tubercular meningitis limited to the vertex is very rare. Moreover, the Pacchionian glands are mere outgrowths from the arachnoid; they have no intimate connexion with the pia mater. There are few cases in which the convolutional veins are not well filled in the cadaver, especially the large ones at the posterior part of the brain, where the congestion is largely owing to gravitation. It is only after considerable experience of necropsies that one is able to affirm that such congestion is indicative of particular obstruction to the cerebral circulation during life. Clearly these veins will participate in the congestion of the venous system generally; e.g., in all forms of asphyxial death; this was noted in my first lecture. But there are many causes of unwonted distension of the cerebral veins of local origin—notably in thrombosis of the lateral sinus and in every variety of meningitis. If there is great excess of fluid in the lateral ventricles, the cerebral convolutions will be flattened by pressure against the skull, and the corpus callosum will be arched to a corresponding extent. To ascertain the amount of fluid, puncture the roof of the ventricles and draw off the fluid with a syringe.

This is a fitting occasion for studying the question of *intra-cranial suppuration*. Pus between the bone and the dura mater arises from injuries to the head, and in some cases from disease of the middle ear. In the latter affection, however, the dura mater is seldom detached to any great extent, but it is common to meet with diffuse arachnitis and pia meningitis, and even cerebral or cerebellar abscess. Suppurative arachnitis is usually the result of injury, ear disease, syphilitic inflammation of the bone, or pyæmia. It is highly important not to confound suppurative arachnitis with widespread effusion of puro-lymph beneath the pia mater and within its meshes. The latter form of meningitis is met with in tuberculosis when it is chiefly basal; it also occurs as an idiopathic disease in very young children, and may be set up from some distant local centre of infection; but, as already said, pyæmic meningitis involves chiefly the arachnoid. There is one exception—viz., where it has arisen in consequence of pyæmic abscess in the brain. I have examined two cases of purulent arachnitis following closely in the wake of vaccination. In both, from want of proper care and cleanliness, unhealthy ulceration had spread from the vaccination sores, and at the inquests I deposed that death arose from pyæmic inflammation of the arachnoid. In the former case this conclusion was assailed by high authority, as it was considered as not proved that the meningitis was not idiopathic in nature; but I think that the discrepancy of opinion is explained in that the traversers had in mind pia meningitis, and not arachnitis, which really occurred. The second case substantially supported this view I had taken of the former; for besides suppurative arachnitis there were abscesses in the cellular tissue and in many joints. One of the medical inspectors of the Local Government Board agreed that these multiple lesions were to be traced to absorption of septic matter from the ulcers in the arm. No one believes more strongly than I in the efficaciousness of vaccination as a life-saving institution, that the unfortunate events just referred to are not in any way owing to vaccination *per se*, and, further, that they are wholly preventable.

At an inquest held in March, 1886, I was requested to give evidence in the case of a man who had died from meningitis nine weeks after he had met with a railway accident. The issue was the more important because it involved the question of compensation. At the necropsy I found advanced phthisis, tubercular epididymitis, and tubercular meningitis. The main question to be decided was how far the accident might have accelerated death. I stated it was possible that the injury might possibly have been a local exciting cause of the meningitis, but under any circumstances there could have been but a short tenure of life.

[The lecturer's remarks on criminal abortion were illustrated by preparations taken from cases that had been the subject of judicial inquiry.]

## A CONTRIBUTION TO THE PATHOLOGY OF THE BLOOD.

BEING AN ACCOUNT OF CERTAIN CRYSTALLINE CHANGES OCCURRING IN THE HÆMOGLOBIN AFTER WITHDRAWAL FROM THE BODY, IN THE SUBJECTS OF CERTAIN DISEASES, ESPECIALLY THOSE OF SEPTIC ORIGIN.

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### PART II.

WE have now to consider the condition of the blood in those diseases, or rather aggregation of symptoms, associated with the presence in the blood or tissues of substances or chemical products, not owing their origin to the life-history of micro-organisms. These conditions fall into two divisions: one in which the substance or poison is introduced from outside, as in the case of a patient saturated with ether; and another in which the poison is produced in the body by disturbed or perverted metabolism and nutrition, as in the case of jaundice or uræmia. Now, as, indeed, we should expect from previous considerations, we find that, taken as a whole, the crystalline tendency is absent in all these cases.

Thus, in the first division, it is absent in the blood of patients who have been long under the influence of ether or chloroform. As a rule, it is absent in cases of opium poisoning. In one fatal case, however, slight crystallisation appeared after the blood had remained on the slide for forty-eight hours, and in this case the man had been in a state of complete coma or semi-asphyxia for twelve hours previously.

The second division will next be considered.

*Rheumatic Fever.*—The crystalline tendency is absent even in well-marked cases, with a temperature of from 101° to 104°. In one case of hyperpyrexia, however, in a syphilitic subject, in which the temperature rapidly rose from 99° to 107°, it was interesting to note that at noon, the temperature being 107°, a drop of blood showed the crystalline change well after standing fifteen hours; whereas at 9 P.M., after energetic treatment with the ice pack, when the temperature gradually fell to and remained at 99°, a drop of blood only showed a very slight crystalline change after standing forty-eight hours; and two days later, the temperature still being 99°, no change could be detected even after standing two or three days. The only explanation of the presence of the crystalline change in this case of extreme pyrexia is that it occurred in a patient who was suffering at the time from paraplegia due to syphilitic disease of the cord, and the sudden rise of temperature may have been due to further nerve influence, and not to chemical poisoning.

*Rheumatoid Arthritis.*—The crystalline tendency is absent in these chronic cases.

*Uræmia and Uræmic Coma.*—I have examined the blood in many cases of Bright's disease terminating fatally in coma or convulsions, and have never detected the crystalline tendency. Here the evidence is strong that the symptoms are due to some partially oxidised products of tissue change circulating in the blood, and the absence of crystallisation is worthy of notice.

*Diabetes.*—The blood in two cases of ordinary diabetes in which large quantities of sugar were passed daily showed no change. In two cases of diabetic coma or acetonæmia, fatal in from thirty to thirty-six hours, very slight crystallisation occurred after the blood had remained five days, and in another case of diabetic coma it was absent.

*Jaundice.*—We are only dealing here with jaundice as a certain symptom or condition of the system due to the retention of a certain substance or substances, and not with reference to the disease producing it. In simple cases of jaundice, due, for instance, to catarrhal obstruction of the duct, I have never detected any crystalline change in the blood; on the contrary, the presence of bile salts in the blood seems to lessen the usual amount of exudation of the hæmoglobin out of the corpuscles into the serum after withdrawal.

We may assume, therefore, from these facts, that the presence of chemical substances in the blood, which, like sugar in diabetes, or the nitrogenous bodies in uræmia, or the supposed lactic acid in rheumatic fever, or the bile salts in jaundice, are not formed by the growth of vegetable micro-organisms, is not in itself sufficient to produce this crystalline change in the hæmoglobin.

The following diseases are due to pathological change in the blood or certain organs not yet demonstrated to be due to micro-organisms.

*Anæmia.*—This is the condition in which, above all others, we should anxiously look for this crystalline change. It is, of course, however, necessary to distinguish carefully between the different diseases included under this name. In idiopathic anæmia or chlorosis, so common in young women, the blood has been examined in severe cases, and no crystalline tendency detected. This disease being probably due to a defective formation and supply of red corpuscles, it is interesting to know that those corpuscles which are in circulation have not that peculiar tendency to degeneration which leads them to crystallise after withdrawal from the body.

*Anæmia from Hæmorrhage.*—Here, too, there is no crystalline change; the corpuscles which remain appear healthy.

*Pernicious Anæmia.*—Four well-marked cases of this disease were examined repeatedly, and they present some interesting points of contrast. In two cases the blood contained only 50 per cent., or only half the normal numbers of red corpuscles, and these were badly shaped, and 23 per cent. and 50 per cent. respectively of the normal amount of hæmoglobin. Both patients had been ill for a long time, and had received no benefit from taking iron. Both recovered after taking arsenic for about two months, and in both cases the temperature was normal throughout. In neither case was any crystallisation detected in the blood. In two other cases, one a girl aged sixteen, and one a man aged thirty-six, the symptoms were alike, but differed from those in the last two cases. In both there was at times sickness; both had relapses, relieved by arsenic, made worse by iron. In the man's case, he had an illness of the same kind a year previously, for which he took arsenic. He died eventually three months after leaving the hospital, probably from the same disease. The girl ultimately recovered. In both cases the temperature was constantly above normal, and occasionally ran up to 102° and 103°. In both there was the crystalline change in the blood; this disappeared in the girl's case as convalescence came on. In the man's case, a marked relationship existed between the amount of crystallisation of the blood and the amount of arsenic taken. Thus, it was found that after the arsenic had been taken for one week there was only slight crystallisation after the blood had stood five or six days, and eventually none at all. Whereas, if the arsenic were discontinued for some days, crystallisation reappeared after the blood had stood from twenty-four to forty-eight hours, and this association was repeatedly tested. These facts point to the suggestion that cases of pernicious anæmia are not all alike in their pathology; they differ in the important respects of temperature and crystalline degeneration in the blood-corpuscles. Moreover, cases in which these latter symptoms exist are more severe, and seem to have some of the appearances seen in cases of septic poisoning. The poverty of red corpuscles in this disease appears, according to recent researches (Hunter, Radcliffe, Oliver, &c.), to be due to an excessive destruction of these bodies in the liver, and perhaps in other organs; whether this is due to the agency of micro-organisms or to a peculiar action of the hepatic cells is not settled, and the arsenic may either act on the red corpuscles, or, as is more probable, on the liver cells themselves. It is also interesting to note that in one case the patient had previously suffered from jaundice. What the real difference is, if any exists, in intimate pathology between these two groups of cases cannot be at present demonstrated; it may be one only of

degree of destruction of red corpuscles; but from our previous knowledge of the conditions under which crystallisation occurs in the blood, we should have been led to expect the presence in the blood of the latter group of cases of some poison or ferment associated with the growth of micro-organisms.[1]

*Addison's Disease.*—In two well-marked examples of this disease the blood was found to crystallise in from twenty-four to forty-eight hours after withdrawal, and the change was more marked the more severe the anæmia and debility—the nearer, in fact, to the fatal termination. It is, of course, well known that the blood is much changed in Addison's disease, the red corpuscles being diminished in number and misshapen; and now we see that, in addition, there is a tendency for its hæmoglobin to crystallise. The cause of this change, like that of the bronzing of the skin and the anæmia, is unknown, but may very probably be closely associated with these, perhaps having with them one common cause. It is, however, interesting to note that, as in the case of pernicious anæmia, the crystalline change bears some direct relation to the temperature, which varys irregularly in this disease.

*Splenic Leucocythæmia.*—It was the well-marked manner in which crystallisation occurred in the blood of persons suffering from this disease that first drew my attention to this subject. Indeed, it has been noticed by previous observers that after death the hæmoglobin readily crystallises in the blood of such patients. The crystals appear on the slide not only in the red corpuscles, but also in the form of large plates in the exuded hæmoglobin. Now, at once it is right to state that there is evidence to show that the crystallisation is due to the presence in the blood of the leucocytes in large quantities, and not to any primary change or degeneration in the red corpuscles. This point will be discussed later, but this statement applies to cases in which the spleen is the organ solely or chiefly enlarged, and in which there is marked leucocythæmia; and it receives confirmation from the fact that in well-marked cases of Hodgkin's disease, in which the lymphatic glands may be enormously enlarged, but in which there is no marked excess of lecocytes in the circulation, crystallisation does not occur.

*Tumours or New Growths.*—For the purpose of this inquiry cases of tumour or new growth must be classified not according to their embryonic or histological characters, but may best be divided into two large divisions. 1. Cases in which the new growth is very vascular, rapidly growing, and situated in parts where rapid infiltration of surrounding tissues can occur, as in the case of internal organs, especially the liver. This group will include such forms as the soft round-celled sarcomata and the encephaloid carcinomata. 2. Cases in which the new growth is only moderately vascular, slowly growing, and more or less defined or limited in outline. This will include the non-malignant forms, and such cases of malignant disease as epithelioma, scirrhus, &c. In viewing tumours, moreover, in their relation to this blood change, we must exclude cases in which there is any possibility of septic poisoning by ulceration or peritonitis, &c., and also all cases in which there is a marked increase in the number of leucocytes in the blood, since we have reason to believe that, as in the case of splenic leucocythæmia, these bodies are capable of themselves producing this change. Further, the blood examined must be drawn from the finger or some convenient spot away from the tumour, for—and this point is very important—if a drop of blood be obtained by a hollow needle directly from a rapidly growing vascular new growth, and placed on a slide, it will of course contain numbers of cells and tissue elements from the tumour itself. Now such blood so treated and allowed to remain will show the crystalline change well in from twenty-four to forty-eight hours. In fact, the cells of the neoplasm seem to act in contact with the red corpuscles, in the same way as the leucocytes in splenic leucocythæmia. Bearing these conditions in mind, I have found that in several cases included in Group 1, one a case of encephaloid of the liver, and one of lympho-sarcoma of the mesenteric glands, the crystalline change exists. Further, such cases in the course of the disease show at times irregular rises of temperature, reaching it may be 100° or 101°, and lasting perhaps a few days, or for longer intervals. It is in these cases that the change is most marked, and in one case was limited to the pyrexial periods and absent when the temperature was normal. In the case of Group 2, on the other hand, I have failed to detect crystallisation even in cases of so-called cancerous cachexia when due to such tumours as scirrhus of the breast.

With regard to an explanation of these facts, we may at once assume that it is not by virtue of their malignancy alone—that is, by virtue of their being sarcomata or cancers—that these growths produce this result; for if a tumour composed of muscles or leucocytes had the same vascularity, the same rapidity of growth, it would probably produce the same effect. Further, the general volume of the blood seems to be affected, as we have seen, only in cases under Group 2, and in these only at a late period of the disease. The production of this blood change seems to be clearly connected in some way with the rapid cell growth and cell decay, the tissue change, and the increased metabolism which is going on at the site of the growth, and which produces its effect primarily on the blood circulating in the tumour. May not, in fact, the occasional elevation of temperature, alike with the crystalline degeneration of the red corpuscles, point to the liberation at this spot of some chemical product, the result of the rapid growth, decay, and death of these cell elements? Knowing, as we do, that blood left in contact with the tumour cells crystallises readily, even when a drop drawn from the general circulation shows no change, we may explain the absence of the crystalline change in slowly growing tumours, and in many cases of malignant disease, on the supposition that, the breaking up and elimination of red corpuscles being active, the rapidity of growth and change at the site of the tumour is not sufficient to influence the whole volume of the blood. At all events, looked at from this standpoint, I think that a little light is thrown on the relation of the life of the tumour to the life of the individual, and on the influence of their rapid growth on the general nutrition, and the way in which they produce general blood change, anæmia, and death.

No mention has yet been made of cases of high temperature due primarily to neurotic influence. Thus the blood has been examined in cases of marked pyrexia reaching 106° or 107° coming on suddenly after injury to the spinal cord high up in the neck; but this condition has been so transitory, the patients dying so soon, that I have not been surprised at the non-detection as yet of any crystalline change, especially when we bear in mind the probable absence in these cases of poisoning in the septic sense of the word. I have also failed to observe it in cases of rapid and transitory rises of temperature with rigors, following the passage of catheters &c., when due to reflex irritation, and not absorption of septic matter.

*The Influence exercised by Local Conditions on the Blood in respect to this Crystalline change.*—By local conditions are meant alterations in the tissues of any part of the body in which the blood circulates, such as a lowered vitality or death due to mechanical or chemical causes. We have already seen that blood from a case of splenic leucocythæmia, containing as it does such numbers of leucocytes, crystallises markedly; also that blood obtained from a rapidly growing sarcoma and left in contact with the sarcoma cells on a slide does so also, although blood drawn from the finger of the same patient does not crystallise. In like manner a drop of blood flowing from a puncture made in granulation tissue does not crystallise, while blood on a slide containing the teased-up granulation cells does so readily. The same holds good for the spleen and liver. Now the question arises, How is this action on the red corpuscles brought about? Do the leucocytes, as they die and disintegrate, produce or liberate some ferment or chemical substance having this effect? Or do they simply act by depriving the hæmoglobin of the red corpuscles of its oxygen? And further, is the same influence exercised by damaged portions of any other tissues of the body as well as leucocytes and cell elements? The following observation may throw light here. The blood was examined from a calf's tail, and found not to crystallise. A ligature was then placed tightly around the lower end of the tail; the blood, thus rendered stagnant and in contact with the partially devitalised tissues, was examined at intervals of two and twelve hours and on the second day after, at which time the ligature was removed and necrosis had commenced; no crystallisation was detected except in one or two corpuscles on the second day. Also a drop of blood taken from tissues inflamed by mechanical means alone and unassociated with the presence of micro-organisms,

[1] This was written in 1886, before Dr. Copeman's article in THE LANCET of May 28th, 1887, on the Blood in Pernicious Anæmia.

as in eczema and burns of limited extent, does not crystallise, though this may be due to the fact that the individual corpuscles remain within the limited area of inflamed tissues for such a short time. Burns of large extent, in which there is a great reaction after the shocks, especially in fatal cases, generally produce a general crystalline change in the whole volume of blood, even although suppuration has not yet occurred; this result may, however, be due to great congestion and interference with the large internal organs. On the whole, then, we may conclude that spleen pulp, leucocytes, and tumour cells, when injured by withdrawal from the body, exert some influence on blood in contact with them, leading to crystallisation of the hæmoglobin of the red corpuscles. Further, where great numbers of these cells or tissue elements live, degenerate, and die in the body, they produce the same change in the blood circulating amongst them, and in some cases this influence may be so great as to affect the whole volume of the blood, as in the case of rapidly growing malignant disease. The more highly organised tissues, when injured, do not seem to exert the same influence either when in contact with blood on a slide outside the body or on blood circulating amongst them in the body. Extensive burns seem to be an exception, but we must in all these cases bear in mind the possibility of septic infection, which will of course produce the result.

As to the nature of this influence—whether, that is, these damaged leucocytes produce this crystallisation of the hæmoglobin by (1) the production or liberation by or from themselves of some chemical body or ferment, as in the case of coagulation; or (2) by depriving the red corpuscles of oxygen, or by both means combined, we do not yet know. As regards the manner of their action on a slide outside the body, it is interesting to note that the presence of mere organic foreign bodies, such as starch granules, in a drop of blood will not produce crystallisation, whereas the addition of some yeast fungus or torulæ brings about marked crystallisation; this fact suggests that the change in the blood is brought about by some action connected with the life of the leucocytes.

*The Influence of the Death of the Body on the Blood.*—Blood taken ten or twelve hours after death from the heart or large thoracic vessels of healthy persons who have died suddenly from accident almost always crystallises in about twenty-four hours; whereas blood taken from the vessels of the limbs crystallises but rarely, and then only after a long interval. Now we know that blood drawn during life and allowed to stand in a clean vessel does not crystallise even on a slide, at any rate in the case of man; and the difference in behaviour between the blood from the thorax and that from the limbs is probably due to the fact that the blood in the large cavities is kept warm for some hours after death, and within easy reach of the septic gas-containing hollow abdominal viscera. Moreover, the fluids in these cavities, thorax and abdomen, undergo a rapid change of some kind after death; for though normal pericardial fluid, when added to a drop of normal blood on a slide, produces no change, pericardial fluid taken from a healthy man twelve hours after death, and added to a drop of normal blood, produces marked crystallisation, although no organism can be detected in the fluid at the time. Further, the condition of the patient at the time of death also makes a great difference. Thus the blood of persons dying from wasting and febrile diseases, even though not crystallising during life, does so after death much more quickly and readily than the blood of healthy persons dying suddenly.

*Crystallisation in Animals.*—The tendency to crystallisation of the hæmoglobin in different animals of course varys greatly, not only in health and when treated by the many and well-known methods and reagents, but also in disease and when observed after the method explained above. Thus, in the mouse, wild and tame, at one end of the series, crystallisation readily occurs in the unaltered drop of blood on a slide, as explained above; in the field mouse it does so more slowly and less fully, also in the rat; and in the hedgehog, mole, guinea-pig, and rabbit it occurs with great difficulty when treated thus, though easily obtainable from these animals by treating the blood with reagents. In the dog there is no crystallisation in health; and in the cat there is slight crystallisation in a few corpuscles from the general circulation; it is, however, well marked in blood taken from the splenic vein during life, and less so in the hepatic vein; the animal, however, was dying from chloroform poisoning by inhalation; but this excess of crystallisation in the splenic vein points again to the influence of the spleen pulp on the red corpuscles circulating in it. The larger domestic animals seem to resemble man in the matter of crystallisation. Thus, in the sheep, though absent in health, I have detected the change in the blood of "rotten" sheep, also in cases of uterine inflammation after lambing, and in cases of the peculiar wasting affection found on cold undrained lands attended with destructive joint changes; on the other hand, it was absent in a lamb and sheep both dying suddenly from pericardial effusion or "red water." Although the crystals of hæmoglobin, appearing thus spontaneously, as it were, in the blood, belong in different animals, with few exceptions, to the same system, yet in these different species they present tendencies to assume for the most part one shape or size peculiar to that species or animal. Thus, in the sheep, in addition to the needles, the plates are generally of a diamond shape, unlike those of man. This points to a considerable difference in the intimate constitution of the hæmoglobin of various animals—a subject well worthy of further investigation. In the case of a wild mouse caught near Wimbledon in 1880, in which numerous actively moving flagellate organisms, probably identical with those described by Lewis as occurring in the rat, were found in the blood, very slight crystallisation was detected—less, in fact, than usual; thus giving another example, as was suggested in the case of anthrax, of an affection in which the parasite kills the host by the mechanical invasion of its fluids and tissues, rather than by the production or liberation of any chemical product. I have not detected any crystallisation in the nucleated corpuscles of toads, newts, or birds; in the fish, however (roach), it occurs readily, in health, in the form of needles and diamond plates. Thus, though animals differ in the tendency to crystallisation during health and in the unaltered blood, they resemble man in this respect, that in diseases of a septic nature and in others, and in the case, too, of blood to which septic serum has been added on a slide outside the body, crystallisation generally occurs.

What is the nature of this change shown by the hæmoglobin under these peculiar conditions? Whether we regard the blood according to the older views as an albuminous fluid only, in which float the corpuscular bodies, red and white, or whether we regard it in a new light suggested by Wooldridge and others, and consider it as a sort of embryonic tissue, an undifferentiated fluid protoplasm, in which the red corpuscles arise, or are born, as it were, by the differentiation and colouration of the little portions of protoplasm forming each corpuscle,—whichever view we take, we are here concerned only with the ultimate composition of the blood, and simply regard it as composed of an albuminous fluid portion or plasma, and a more solid or corpuscular portion, each corpuscle of which consists of a protoplasmic stroma containing in loose combination, or in some sort of physico-chemical association, a proteid-coloured body called hæmoglobin. This body is capable of existing in a crystalline and in a colloidal form, and in an oxidised and in a reduced condition, and it is now for us to attempt to explain the occurrence of the crystalline form in the blood of man in disease, since it only exists during health in the colloidal state. As regards the real nature of this change, we know that it is not due to a mere alteration of plasma or corpuscles due to high temperature, for it is absent in rheumatic fever. Neither is it owing to a disturbance of the relation between solid and fluid constituents, for it is not found in the blood of persons extremely anæmic from severe hæmorrhage. Neither is it simply a diminution in the volume or amount of the hæmoglobin, for it is absent in chlorosis. Now it happens that the result obtained by the disease—for instance, septicæmia—on the blood in the body can be produced by the addition to a drop of normal blood on a slide outside the body of some of the poison producing the disease. Thus, if a drop of putrefactive human serum be added to a drop of normal blood on a slide, well-marked crystallisation of the hæmoglobin occurs in twenty-four hours. And this holds good of other diseases, care being of course always taken to use only serum as the vehicle of the poison, so as to alter the composition of the blood as little as possible. In this way various agents can be used and the nature of the change more easily investigated. If a specimen of blood in which this change is going on be watched under a cover glass, it will be found that the first change, occurring in from six to eighteen hours, is nearly always an exudation more or less of the hæmoglobin into the serum; the corpuscles grow pale, while the serum assumes a yellowish tinge. A little later, in

from twelve to twenty-four hours, it will be found that crystallisation has occurred, and this chiefly in the red corpuscles, and, if the exudation of hæmoglobin has been marked, in the dissolved hæmoglobin also, around the margin, not, however, the extreme edge, of the cover glass. If normal blood be allowed to stand in quantity to which some hydrocele fluid which has been exposed to the air for some days is added, crystallisation does not occur to any extent in the blood standing in mass, but it appears as soon as a drop of such septicised blood is transferred to a slide and allowed to remain twenty-four hours; and if some of the same hydrocele fluid be added to a drop of fresh blood on a slide, crystallisation also occurs in twenty-four hours; whereas, fresh hydrocele fluid, free from organisms or their products, has no power to produce this change. From this it appears that the change brought about by the poison in the first instance, is an increased exudation of the hæmoglobin out of the corpuscles into the plasma, and then, when the conditions are favourable as to evaporation &c., as on a slide, crystallisation occurs in the exuded hæmoglobin and also in the corpuscles, the crystallisation being the second term in the series of changes. But this crystallisation is not merely an accident due to the exudation of the hæmoglobin and subsequent evaporation of the serum. This is proved by the fact that it is absent in the blood of typhoid fever patients, although in this disease there is considerable exudation of the hæmoglobin, and the conditions favouring evaporation are the same. And further, in many cases where the poison is highly concentrated, crystallisation occurs within the red corpuscles, before exudation of the hæmoglobin can occur. Thus the first effect of the poison in a moderate dose is to produce exudation of hæmoglobin, and, secondly, the conversion of this body from the colloid to the crystalline condition.

Now, bearing in mind that, though soluble in serum, the hæmoglobin does not leave the red corpuscles under normal conditions and in health, and since mere alteration of the density &c. of the serum alone has no power to bring about crystallisation, we are led to think that the action of the poison falls chiefly on the red corpuscles, and consists in a lowering of the vitality of the stroma, rendering it incapable of retaining the hæmoglobin in association with itself, just as, in order to prepare hæmoglobin artificially, it is necessary to detroy the stroma by reagents, or by repeated freezing and thawing. Further, this hæmoglobin, being itself a highly complex substance composed of a proteid body (globulin) and a coloured compound (hæmatin), is probably also affected itself; its vitality is also reduced, for it is converted from the semi-fluid colloidal state in which it exists in association with the stroma into the rigid, less vitalised, crystallised state. But this is not all. If a drop of normal blood be watched on a slide for some days, it will, on examination with the micro-spectroscope, always show the two narrow bands characteristic of oxyhæmoglobin; it becomes—remains, in fact, in an oxygenated or arterial condition, even though venous or deoxidised when first drawn. On the other hand, in poisoned or crystallisable blood, one of the first changes after the exudation of the hæmoglobin is that, no matter in what state it was first placed on the slide, it invariably shows the one broad band characteristic of reduced hæmoglobin; it becomes, in fact, very venous in proportion as the exudation and crystalline changes progress. This reduced spectrum is not obtained at first alike all over the field, but occurs first in patches where the exudation and crystallisation are setting in—not, however, just round the extreme margin of the cover glass, for here, just inside the dried blood, which forms a protecting scab, is a zone of highly oxygenated blood, in which neither exudation nor crystallisation ever takes place. The crystalline and venous changes occur in a wide zone just inside this oxygenated zone, and this relation of zones is, no doubt, determined by the physical conditions of exposure, evaporation, &c., the important point being, that these changes do not occur in blood which is not diseased, or has not been treated with septic serum in the way described. Further, although the crystals of hæmoglobin, when obtained by the usual methods, are capable of existing in the oxidised or in the reduced condition, yet when occurring in such poisoned blood, they are, like the blood, always in the reduced or venous state; this is shown both by their purple colour and by the micro-spectroscope.

Now, this fact—namely, that the hæmoglobin of patients suffering from these diseases, septic and others, in which crystallisation occurs when placed on a slide, always loses its oxygen, whereas the hæmoglobin of normal blood, when so treated, always gains or retains its oxygen, no matter in what state it is when drawn—is very important. Such hæmoglobin has not lost the power to take up oxygen, for when exposed to the air the blood again becomes arterial, but when confined under the cover glass and the air excluded by the dried scab, it in some manner has the oxygen removed from it. Now the question is, What is the agent by which this loss of oxygen is brought about? Mere organic foreign bodies, such as starch granules, do not produce either exudation, crystallisation, or reduction of the hæmoglobin. If, on the other hand, some living torulæ cerevisiæ be added, then deoxidation occurs in addition to the exudation and crystallisation described above. Torulæ differ from starch granules, especially in these particulars—that they are alive, that they are associated under certain conditions with fermentative changes, and that they require and abstract oxygen from the surrounding media. Moreover, we have seen before that the contact of leucocytes or sarcoma cells with the blood under like conditions will bring about this exudation, crystallisation, and deoxidation, and there is evidence to show that leucocytes and bodies resembling them, in addition to requiring oxygen, are associated, when injured or undergoing disintegration, with some ferment-like bodies, having important effects on the blood as regards its tendency to crystallisation.

Judging, then, from the foregoing facts, I may state that the blood in the septic and infective diseases mentioned above, also when associated with the presence of large quantities of leucocytes or sarcoma cells and cell elements of a like nature, or when treated outside the body by the addition of septic serum, undergoes certain changes in which the hæmoglobin especially suffers—passing through a triple retrogressive change of exudation into the serum, deoxidisation, and crystallisation. Though, of course, it is extremely difficult to separate and distinguish between effects due to the mere presence of the micro-organisms and those due to the products of the growth, yet we know that in some affections, at any rate such as sapræmia, the change in the hæmoglobin is associated with the presence in the blood of certain chemical products, the micro-organisms themselves not getting into the circulation. From these and other facts we are led to believe that it is the chemical albuminous ferment-like bodies which are produced by the growth of the organisms in the one case, and the products of the disintegration of the devitalised leucocytes or tumour cells in the other, which brings about these changes in the hæmoglobin, and not the mere presence of the organisms or leucocytes themselves.

I am fully aware that there are many cases in which a further examination of the blood may throw important light. Thus it would be especially interesting to note the presence or absence of this change in the case of poisoning by snake bite, the poison of which has now been more fully worked out; also the injection of the isolated products—such as sepsin &c.—themselves into the circulation would give additional evidence; also the injection of bodies of an analogous nature—such as the ferments, pepsin, trypsin, &c. For these and other experiments, further opportunities may arise.

In conclusion, I venture to think that the results obtained and stated in the foregoing pages explain certain phenomena which have hitherto existed as isolated facts. It has been known for some time that the actual quantity of oxygen in the arterial blood of animals suffering from septic diseases is diminished; this is now explained by the deoxidising action of the poison on the hæmoglobin. It is also of course frequently observed that considerable post-mortem blood staining of the endocardium and interior of the large vessels occurs in the bodies of patients dying from septic diseases. We have seen above how the action of the poison of these diseases is to cause exudation of the hæmoglobin from the red corpuscles into the serum, and so to bring it in contact with the tissues.

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DRAINAGE OF THE CITY.—At a meeting of the City Commission of Sewers on Tuesday, the Streets Committee were charged with the duty of considering whether any, and, if any, what better method could be adopted for cleansing the catchpits, gullies, and drains in the City and for improving the construction of the drain pipes leading to the main sewers.

## CYSTOTOMY IN ADVANCED VESICAL CANCER.

BY T. D. COLLIS BARRY,
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THE following three cases are practical illustrations of the advantage to be derived from cystotomy with perineal drainage in cases of advanced cancerous growths of the bladder.

CASE 1.—F. W——, aged forty-three, engineer, had been suffering for five months from severe pain in the lower part of the back, dragging pains in the groin and perineum, accompanied latterly by hæmaturia and intense flashing pain during and after micturition, described by the patient as commencing in the perineum and extending along the urethra to its termination. The patient had been under treatment at a hospital, and his case diagnosed as cancer of the bladder. Upon examination with a No. 8 sound, the latter met with an obstruction just behind the prostate gland, and with the finger in the rectum a growth upon the base of the bladder in this situation was distinctly perceptible, and there was little doubt that it was of a cancerous character. The examination of the urine and deposits microscopically gave no distinctive indications. The pain became so intense, and the repeated desire for micturition so constant, that the patient's life became a misery to him. The association of the flashing pain with each act of micturition suggested the advisability of opening the bladder from the perineum, and inserting a tube after the manner usually adopted in cystotomy. After operation half a grain of morphia was administered hypodermically to allay pain and induce sleep. The following morning the temperature had risen to 101°, but fell to normal during the day. There was no pain accompanying the emptying of the bladder, the urine passing away by the perineal opening freely. There was a little cystitis, which was got rid of by washing out with hot boracic acid solution. The temperature remained normal from the second day after operation, and the pain formerly complained of had disappeared entirely. The patient was up in ten days from the date of the operation, and for seven months was able to get out of doors without any more inconvenience than that caused by the presence of the perineal tube. Shortly after this (nine months after cystotomy) his strength began to fail, and he died after a few days' confinement to bed.

CASE 2.—J. S——, aged forty-six, sailor, lately returned from Northern India. He had been under treatment for cancer of the bladder in the Calcutta Hospital, but had left there in order to rejoin his ship. The symptoms were much the same as in the preceding case, but there was more loss of flesh and more cachexia. The use of the sound gave little evidence beyond proving the existence of a small sacculation behind the prostate gland. There was enlargement of the inguinal glands on both sides, and the same flashing pain preceded and accompanied micturition as in Case 1. Cystotomy was performed, and after a somewhat tedious recovery he began to regain his strength, and the pain formerly accompanying micturition entirely ceased. He was able to walk out for a short distance every day, and he passed the remaining nine months of his life in comparative comfort, death eventually occurring through a fall from a vehicle.

CASE 3.—A. B——, aged sixty, engineer, had been under treatment for cancer of the bladder for three months. When he first came under my care he was suffering from intense pain preceding micturition, and there was enlargement of the right inguinal glands. Cystotomy was resorted to, and within three weeks the patient was able to get about with the help of a stick. For three months he was able to go out of doors morning and afternoon, with his perineal tube attached to an indiarubber urinal. The pain formerly accompanying micturition, though not entirely ceasing, was, nevertheless, so slight as to cause him little or no inconvenience until three months after operation, when the cachexia suddenly and rapidly increased, and he died after a few days' illness.

*Remarks.*—It will be observed that in all three cases recorded the disease was advanced and the flashing pain accompanying micturition the most prominent symptom, and it was with a view to relieve this distressing symptom that the operation was in each case performed. The relief afforded by the perineal drainage in these cases is unmistakable, and the shock following the operation is so slight that it need hardly be taken into account even in the most debilitated. The operation is certainly justifiable in all cases where there is much pain, and holds out a very fair prospect of relief during the remaining months of life. It is found convenient to have the perineal tube fitted with a silver tap, which the patient can use when he desires to empty the bladder, otherwise he must have the tube connected by means of a rubber tube with a portable urinal.

Netley.

## CASE OF ANOMALOUS NERVE DISEASE,

WITH NECROPSY AND EXAMINATION OF CORD.

BY JAMES MATTHEW CAW, M.B.,
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IDA A——, aged fourteen, domestic servant, was admitted to the Woolwich Infirmary on Nov. 4th, 1886. Previous to her removal from her home it was found necessary to administer chloroform, on account of the suffering experienced on movement and touch of the lower extremities. She complained of inability to move the lower limbs, which were drawn up in the flexed position; of excruciating attacks of pain in the lower part of the spine and sacral region; and of intense pain of the legs, from the sacrum and iliac crests downwards, when touched or on attempting to move them. She had always enjoyed good health until her present illness. There was no history of any inherited taint, her mother, brother, and sister being apparently quite healthy. Nine weeks before admission her mother gave her a dose of "pennyroyal," thinking to aid the menstrual flux, which she thought was somewhat delayed (the girl had been "unwell" for the first time about a month previously). Next morning, while sitting at breakfast, she was seized with a feeling of cramp in her legs, and sensations as of "pins and needles." On rising to go to her work (that of a day servant) she fell, but was able to reach her destination, though with some difficulty. The feeling described lasted throughout the day, and she had to be conveyed home in the evening. Then, for the first time, while sitting on a chair, she was attacked by an excruciating pain in the lower part of the spine, which she described as being "like knives digging and scraping." During the night she had several of these attacks, which compelled her to lie on her side with her legs drawn up. Never since the first seizure had she been able to move her legs without severe pain. The numbness gave way to intense sensibility of the skin of the lower limbs, which became rigid and fixed in the flexed position (legs on thighs and thighs on abdomen). Attacks of pain, as described, occurred two or three times every day. A bedsore on each hip had developed, and several ulcerous patches over the lower limbs. She had had no return of menstruation since the commencement of her illness.

On admission the patient was observed to be an intelligent girl with a pained expression of face. Her lower limbs were drawn up as described. She began to cry when she thought she was to be touched. The upper limbs and trunk were unaffected. There was intense hyperæsthesia of the lower limbs. The latter were covered with ulcerating patches, which seemed to greatly undermine the skin. On each tarsus were one or two perforating ulcers, leading down to carious bone. Over each hip was a large bedsore, exposing the capsule of the joint. The vulva and parts surrounding were covered with an eczematous rash, due in all probability to neglect of cleanliness. There were several blebs containing a dark-coloured serum over the legs, varying in size from a sixpenny-piece to half-a-crown; these on bursting were found to leave ulcerating patches, the larger having little or no tendency to heal. Her appetite was good; defecation was attended with severe pain of a lancinating character, and micturition was easy and apparently normal.

The patient continued in much the same state for three months after admission; ulcers forming, healing up, and re-forming; excruciating attacks of pain coming on about twice a day; the bedsores on hips increasing, and extending underneath the skin to the vulva, which began to slough, attended by considerable bleeding. The disease did not extend up the trunk, or involve the arms. She gradually sank from exhaustion and hæmorrhage, intelligence remaining pretty clear till the last. No treatment seemed of avail.

Iodide of potassium, nitrate of silver, &c., did not seem to have any effect on the lancinating pain. The sores were treated with powdered iodoform applied on wool. The diagnosis which appeared most probable was that of hæmorrhage into the cord, followed by myelitis and softening. This seemed the more likely as the onset of the disease occurred at the time when the second menstrual period was expected, and possibly a vicarious hæmorrhage might have taken place into the spinal cord.

At the necropsy the lower extremities were observed to be much swollen, and presenting the appearances already described. The uterus and abdominal organs were healthy. On removing the spinal cord no hæmorrhage, meningitis, or patch of softening was observed. Having hardened the spinal cord for three weeks in bichromate solution, I examined it under various powers of the microscope. Only in the region of the lumbar enlargement was anything abnormal detected. Of many sections from this part of the cord which I examined, nearly all showed signs of absorption or softening of that part of the grey matter situated near the junction of the grey commissure with the grey matter—that is, in the neighbourhood of Clarke's posterior vesicular column. At the necropsy the sodden, rotten state of the skin was particularly noticeable, being hardly capable of retaining the stitches which were inserted on sewing up the body.

The case seems to have been one of acute degeneration of the grey matter, most probably involving the tract containing the trophic nerves of the skin, which are said to pass along the middle of the grey matter. The intense hyperæsthesia distinguishes it from acute anterior poliomyelitis, although it is most probable that the anterior cells of the grey matter were also considerably involved.

## ANALYSIS OF THE URINE IN TWO CASES OF CEREBRAL ABSCESS.

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Two cases of abscess of the brain have recently occurred in the Glasgow Ear Hospital, under the care of Dr. Thomas Barr. I had the opportunity of examining the urines of these patients, and the results obtained appeared to me to illustrate well the great advantage, as an aid to clinical diagnosis, of the complete examination of the urine. The analysis was conducted in accordance with the method originated by Mr. A. E. Haswell, pathological chemist to the St. Joseph's Children's Hospital, Vienna.

In all, six specimens of urine were examined: two from a girl aged twenty (K. A——), who died, the diagnosis being confirmed by post-mortem examination; and four from a boy aged nine (W. H——), who recovered after evacuation of the abscess by Dr. Macewen. These specimens naturally fall into two groups: in one are the urines of the girl who died, and of the boy before operation; whilst included in the other group are the specimens of the urine passed by the boy subsequent to operation. A comparison of these two groups will illustrate certain striking differences between the urines excreted when pus was present in the brain and those after its removal.

GROUP A.—The following characters common to these three specimens are to be observed:—

1. In each there are distinct evidences of the existence of a *status febrilis*. These are most conspicuous in Nos. 2 and 3. Taking the latter as an example, we observe that the quantity of urine passed in twenty-four hours is small—0·41 litre,[1]—the specific gravity excessive, the reaction acid, and the colour high; that the elimination of urea, even during temporary starvation, is relatively abundant; and that the amount of extractive material—principally pigments—is increased. All these facts tend to demonstrate the presence in the body of a *status febrilis*. This is the more worthy of attention, since the thermometer did not reveal any decided elevation of temperature, though it is clear from what is stated above that the metamorphosis of tissue must have been proceeding with abnormally excessive activity.

[1] Of course, it must be borne in mind that the quantity of fluid imbibed by the patient at this period was small, he lying in a comatose condition. No fluid, however, was lost by vomiting.

2. A great diminution in the amount of chlorides relatively to the total dry residue is noticeable. Thus in urine No. 3 the dry residue is 74 per mille, and the proportion of chlorides in that amount of dry residue should be 11·1, whereas it is only 4·1. A similar disparity exists in urines Nos. 1 and 2.

3. There is a decided increase in the amount of phosphates excreted relatively to the dry residue. For example, in urine No. 3 the amount eliminated was 9·1 per mille, when with a dry residue of 74·5 per mille it should have been 5·5. The same feature is seen in urine No. 2, and to a less extent in urine No. 1, which was passed a month before death, when it may be presumed that the cerebral mischief was but limited. It is to be remarked that this increase in the total amount of phosphates includes an increase of earthy phosphates. This is very prominent in No 1, and less so in No. 2, whilst in No. 3 the increase of earthy phosphates is but fractional. But it must be observed that urines Nos. 2 and 3 indicate the existence of more active febrile processes, and accompanying such processes we should expect to find a diminution of earthy phosphates. The fact that these salts in No. 2 are not diminished, and in No. 3 approximate to the normal standard, must be regarded as equivalent to an actual increased elimination.

GROUP B.—The characters which attracted attention in the urines of Group A may now be compared point by point with the corresponding features of the urines of Group B.

1. From the analysis of the urines of Group A several facts emerged indicating the existence of excessive tissue changes. These features were most marked in urine No. 3. Now, when attention is directed to the corresponding points in the urines of Group B, it is at once seen that a conspicuous difference exists. Further, it will be observed that the improvement in these respects is progressive. The facts as regards quantity and specific gravity are as follows:—In urine No. 4 only 0·28 litre is passed in twenty-four hours, and the specific gravity is 1030. It will be noticed, therefore, that the quantity passed in twenty-four hours shortly after, is less than that passed during the twenty-fours preceding operation; but whilst this is the case, the specific gravity has fallen from 1032 to 1030. At the same time the reaction has become less strongly acid, and the colour of the urine is lighter. In other respects the urines resemble one another, so that we conclude from urine No. 4 that undue tissue change is proceeding (i.e., after operation), though this is not so extreme as before operation. (See urine No. 3.) In urine No. 5, seven days after operation, the quantity of fluid has considerably increased—viz., to 1·28 litre,—whilst the specific gravity has fallen to 1009·5. Urine No. 6, thirteen days after operation, measures 1·31 litre in twenty-four hours, and the urinometer indicates a density of 1012. The marked and progressive improvement is here conspicuous. Further, these two specimens do not illustrate in their other features the presence of a *status febrilis*. The reaction in the one is alkaline, in the other neutral. Each is of a pale amber colour. There is no marked proportionate excess of urea, and though the amount of extractive material is still abnormally large when compared with the total dry residue, the above facts show that some explanation of this, other than excessive tissue change, must be sought for.

2. The change in the elimination of chlorides is significant. In urine No. 4 the chlorides, though still far below the amount which ought to be present in a dry residue of 69·9 per mille—i.e., 10·3,—are not so deficient as in urine No. 3. The dry residue in urine No. 5 is 22·1 per mille, and the normal proportion of chlorides in this is 3·3 per mille; the actual proportion present is 2·4 per mille. Whilst No. 6, with a dry residue of 27·9 per mille (normal proportion of chlorides 4·1 per mille), yields 4·7 of chlorides.

3 There is seen to be a progressive diminution of the phosphates, which ultimately reach the normal standard. Thus in urine No. 4 the normal proportion of phosphates relatively to the dry residue is 5·2 per mille, whereas they were found to be 6·2 per mille. In No. 5 the normal proportion is 1·6; the proportion present is 1·79. Whilst in No. 6 the amount of phosphates present bears to the dry residue a normal relation. The earthy phosphates in the three urines are observed to be either approximately normal or subnormal; whereas in the urines of Group A—i.e., whilst pus was forming in the brain—these salts were found in excess.

It is impossible within the limits of this paper to state fully the diagnostic value of these facts. Many of them

## GROUP A.

| — | No. 1.* | No. 2.* | No. 3. |
|---|---|---|---|
| Name, sex, and age | K. A——, female, aged twenty | K. A——, female, aged twenty | W. H——, boy, aged ten |
| Date of analysis | Sept. 30th, 1886 (30 days before death) | Oct. 30th, 1886 (12 hours before death) | Jan. 22nd, 1887 (day of operation) |
| Amount of urine examined | A small quantity of the morning's urine | A small quantity of urine | In 24 hours 0·41 litre passed |
| Sediment (microscopic examination) | A few red blood corpuscles, epithelial débris, an occasional epithelial tube cast, few pus corpuscles, mucus and vaginal epithelium | Urates, mucus, epithelial débris | Amorphous urates, débris, mucus |
| Colour | Amber | Sherry-coloured, turbid | Red-brown |
| Odour | Urinous | Urinous | Strongly urinous |
| Reaction | Slightly acid | Acid | Acid |
| Specific gravity | 1024 | 1027 | 1032 |
| | In per mille. | In per mille. | In per mille. Grms. in 24 hrs. |
| Water | 944·0 | 937·1 | 926·5 ..... 379·5 |
| Dry residue | 56·0 | 62·9 | 74·5 ..... 30·5 |
| Organic material | 45·9 | 49·6 | 58·3 ..... 23·9 |
| Ash | 10·1 | 13·3 | 16·2 ..... 6·6 |
| | (relatively decreased) | (relatively decreased) | (relatively and absolutely decr.) |
| Extractive material | 7·9 | 8·7 | 11·5 ..... 4·7 |
| | (relatively increased) | (relatively increased) | (relatively incr., absolutely decr.) |
| Urea | 35·0 | 39·3 | 44·3 ..... 18·1 |
| | (relatively increased) | (relatively increased) | (relatively incr., absolutely decr.) |
| Chlorides | 2·6 | 4·1 | 4·1 ..... 1·6 |
| | (relatively much decreased) | (relatively much decreased) | (relat. much decr., absolutely incr.) |
| Sulphates | 2·8 | 2·7 | 3·0 ..... 1·2 |
| | (relatively decreased) | (relatively decreased) | (relatively decr., absolutely decr.) |
| Phosphates | 4·7 | 6·5 | 9·1 ..... 3·73 |
| | (relatively increased) | (relatively increased) | (relatively incr., absolutely decr.) |
| Uric acid | Increased | Increased | Increased |
| Pigments | Indican increased | Urocerythrine present; indican increased | Urophaein and urocerythrine present; indican much increased |
| Albumen | Faint trace | Faint trace | None |
| Sugar | Faint trace | None | None |
| Ammon. carb. | Normal | Normal | Distinct traces |
| Alkali phosphates | 2·2 | 4·9 | 7·6 ..... 3·1 |
| | (relatively decreased) | (relatively increased) | (relatively incr., absolutely decr.) |
| Alkaline earth phosphates | 2·5 | 1·6 | 1·5 ..... 0·61 |
| | (relatively increased) | (relatively increased) | (relatively norm., absolutely decr.) |
| Abnormal substances | Urate ring with $HNO_3$; a precipitate on boiling almost completely soluble in acetic acid | Urate ring and precip. on boiling; almost completely soluble in acetic acid | Urate ring seen on adding $HNO_3$ |
| Nitrogen | 16·3 | 18·3 | 20·6 ..... 8·0 |

* In urines Nos. 1 and 2 a twenty-four hours' collection was unfortunately not obtained; hence definite conclusions could not be so certainly arrived at.

## GROUP B.

| — | No. 4. | No. 5. | No. 6. |
|---|---|---|---|
| Name, sex, and age | W. H——, boy, aged ten | W. H——, boy, aged ten | W. H——, boy, aged ten |
| Date of analysis | Jan. 24th, 1887 (urine passed 12 to 36 hours after operation) | Jan. 29th, 1887 (7 days after operation) | Feb. 4th, 1887 (13 days after operation) |
| Amount of urine examined | 0·28 litre in 24 hours | 1·28 litre in 24 hours | 1·31 litre in 24 hours |
| Sediment (microscopic examination) | Urates, débris, mucus | A very little mucus and débris | Epithelial débris, mucus |
| Colour | Sherry | Pale amber | Pale amber |
| Odour | Urinous | Urinous | Urinous |
| Reaction | Acid | Slightly alkaline | Neutral |
| Specific gravity | 1030 | 1009·5 | 1012 |
| | In per mille. Grms. in 24 hrs. | In per mille. Grms. in 24 hrs. | In per mille. Grms. in 24 hrs. |
| Water | 930·1 ..... 260·4 | 977·9 ..... 1251·8 | 972·1 ..... 1273·5 |
| Dry residue | 69·9 ..... 19·5 | 22·1 ..... 28·2 | 27·9 ..... 36·5 |
| Organic material | 56·1 ..... 15·7 | 16·7 ..... 21·3 | 19·4 ..... 25·4 |
| Ash | 13·8 ..... 3·8 | 5·4 ..... 6·9 | 8·5 ..... 11·1 |
| | (relatively decr., absolutely decr.) | (relatively decr., absolutely decr.) | (relatively normal, absolutely decr.) |
| Extractive material | 12·5 ..... 3·5 | 3·0 ..... 3·8 | 5·4 ..... 7·0 |
| | (relatively incr., absolutely decr.) | (relatively incr., absolutely decr.) | (relatively incr., absolutely slightly decr.) |
| Urea | 41·7 ..... 11·6 | 13·0 ..... 16·6 | 13·0 ..... 17·0 |
| | (relatively incr., absolutely decr.) | (relatively slightly incr., absolutely decr.) | (relatively decr., absolutely decr.) |
| Chlorides | 4·3 ..... 1·2 | 2·4 ..... 3·0 | 4·6 ..... 6·1 |
| | (relatively much decr., absolutely much decr.) | (relatively slightly decr., absolutely decr.) | (relatively incr., absolutely decr.) |
| Sulphates | 3·0 ..... 0·8 | 1·2 ..... 1·5 | 1·8 ..... 2·3 |
| | (relatively decr., absolutely decr.) | (relatively slightly decr., absolutely decr.) | (relatively decr., absolutely decr.) |
| Phosphates | 6·5 ..... 1·7 | 1·79 ..... 2·29 | 2·0 ..... 2·6 |
| | (relatively incr., absolutely decr.) | (relatively slightly decr., absolutely decr.) | (relatively normal, absolutely decr.) |
| Uric acid | Increased | Decreased | Decreased |
| Pigments | Urophaein present; indican decidedly increased | Indican (indigo) increased | Urocerythrine slightly increased, indican (indigo) much increased |
| Albumen | None | None | None |
| Sugar | None | None | None |
| Ammon. carb. | Distinct traces | Decidedly increased | Normal |
| Alkali phosphates | 5·23 ..... 1·46 | 1·6 ..... 2·04 | 1·33 ..... 1·8 |
| | (relatively incr., absolutely decr.) | (relatively slightly incr., absolutely decr.) | (relatively very slightly decr.) |
| Alkaline earth phosphates | 1·28 ..... 0·35 | 0·19 ..... 0·24 | 0·6 ..... 0·78 |
| | (relatively almost normal, absolutely decr.) | (relatively decr., absolutely decr.) | (relatively very slightly incr.) |
| Abnormal ingredients | — | Faint play of colours with $HNO_3$ | Faint play of colours with $HNO_3$ |
| Nitrogen | 19·4 ..... 5·4 | 6·0 ..... 7·6 | 6·0 ..... 7·8 |

have considerable negative significance, and would at once enable the physician to limit the possible diagnoses. The positive conclusions to which the analyses in Group A point are three in number: 1. That a *status febrilis* exists. 2. That this is accompanied by inflammatory exudation (diminution of chlorides). 3. That great destruction of nervous tissue is going on (increase of phosphates). Moreover, the high colour and excessive specific gravity of the urine, with the amount of earthy phosphates eliminated, indicate that this destruction is occurring in the nervous tissue of the brain. The analyses under Group B emphasise the significance of the facts to which special attention has been directed, and the assistance to be derived from such knowledge exemplifies the value as an aid to clinical diagnosis of a complete examination of the urine.

CASE OF

## PLASTIC OPERATION FOR DESTRUCTION OF NOSE BY SYPHILIS.

BY C. M. CAMPBELL, M.D.

W. W——, an undersized boy, aged fifteen. Parents alive and healthy; five brothers and sisters alive and healthy; one brother died, aged fourteen months. When aged seven he suffered for two years from his eyes (keratitis?), and at nine from a general skin eruption, consisting of red, dry, scaly patches. This lasted an uncertain period, and was followed by hard glandular swellings in the neck, which remained several years. When aged thirteen he began to snuffle, the nose became swollen and tender, and he lost flesh rapidly. At this time (exact date uncertain) the bridge of the nose was lacerated by a stone, and the wound remained an open sore. He was treated for this condition in

FIG. 1.

a provincial hospital, where it was diagnosed as lupus; but in spite of every care the disease advanced. In January, 1887, perforation took place, the nasal bones exfoliated, and the patient became alarmingly weak. He was admitted into St. John's Hospital for Skin Diseases on Feb. 24th, presenting the following conditions: Great prostration, feeble pulse, anorexia, and insomnia. The nose, except the tip and alæ, had disappeared, and in its place was an irregularly-shaped aperture, an inch and a quarter by three-quarters of an inch, with ulcerating edges, opening into the nares. Discharge profuse and foul; septum gone. (See Fig. 1.) The tip and alæ were of a dusky purple colour, as if about to slough. The free edge of the soft palate ulcerating, and deeply cleft by a ragged fissure to the right of the uvula, which hung by a thin shred of tissue. Tonsils and pharynx swollen, red, and showing several shallow ulcers. Teeth irregular and ridged, but did not exhibit Hutchinson's notches well marked. Treatment: Full diet, with claret; pulv. hydr. c. creta, gr. iii., om. noc.; mist. sodii iodi. (gr. xv. of the salt) ter dies sum.; nasal cavity repeatedly syringed with sol. hydr. perchlor., 1 in 1000, and insufflated with iodoform. The case at once began to improve, and after five weeks the edges of the nasal wound had healed; the tip and alæ became normal in colour, but much contracted, so that the single nostril (the septum being gone) scarcely admitted the tip of the little finger. The nasal wound now measured one

FIG. 2.

inch by half-an-inch; the faucial and palatal ulcerations had healed, and the general condition greatly improved. Mist. sodii iodi continued; hydr. c. cretâ stopped. The face being hideously disfigured (see Fig. 2) and phonation interfered with, I resolved to make an attempt to close the aperture, but judged that it would be unwise, in the doubtful

FIG. 3.

condition of the patient's tissues, to do more than this in the way of making a new nose.

On April 20th, under chloroform, the nostril was fully dilated, and the upper free border of the tip and alæ vivified. Incisions were made along the outer borders of the alæ, and carried outwards and then upwards towards each eye. The edges of the nasal aperture were then vivified, and the flaps dissected upwards until sufficiently free to meet in the mesial line without tension. About an inch and a half of stout rubber tubing was passed up the nostril, keeping it dilated, and over the tube the flaps were adjusted and secured to the tip, alæ, and to each other in the mesial line, by harelip pins and silver sutures. The cheeks on each side were drawn towards the nose by strips of salicylic plaster, and the surface dusted with iodoform, and covered with cotton wool. The needles and sutures were removed on the fourth day. The flaps had then joined, except for about one-fifth of an inch in the mesial line near the tip. This, however, granulated and closed, without any aperture, in a few days. On April 28th the iodide of sodium was stopped, and syrup of hypophosphites (one drachm, three

times a day) prescribed. On May 5th the wound had healed, and the patient appeared as in Fig. 3. Phonation had greatly improved. The patient was discharged, with directions to continue dilatation of the nostril, which showed a tendency to contract.

*Remarks.*—There was no clear history of syphilis on the parental side, and the case was sent to St. John's Hospital as one of lupus. The absence of lupus on the face, and the limitation of the rapidly destructive processes to the nose and naso-pharynx, rendered such a diagnosis inadmissible. The good effect of iodide of sodium in full doses (forty-five grains a day) was well illustrated in this case. Whether the syphilis was inherited, or acquired accidentally in childhood, I am unable to decide.

Hereford-square, South Kensington, S.W.

# Clinical Notes:

## MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

### WHAT IS THE AVERAGE LAPSE OF TIME BEFORE THE RETURN OF CANCEROUS DISEASE AFTER OPERATION?

By FRED. A. A. SMITH, M.D.

WE all know how difficult it is to get patients the subjects of cancer to submit to an operation before the disease has made such progress that life becomes unbearable. Then, and not till then, will they submit to an operation which for obvious reasons is too often only palliative, with the consequence of an early return of the disease and death. My reason for writing these few lines is to show in a small way how great the boon might become would patients only submit to early operation. Even should the tumour be found after excision to be innocent, a constant source of mental discomfort is clearly removed, and tumours of all descriptions are unsightly and troublesome. The subjoined case was operated upon by me in 1868, and until a few weeks ago the lady has had no return of the disease, when she observed two small tumours in the cicatrix of the former operation, with constant pain.

In 1868 a lady, aged forty-one, consulted me about a painful tumour in her right breast. It was the size of a large walnut, smooth, and movable in all directions. She was advised to submit to an early operation, and after a few weeks' consideration consented, the consequence being that for nearly nineteen years no return of the disease took place. After excision, well-marked cancer cells were observed under the microscope. I should like to know whether many such cases have been observed, and whether an early excision of the secondary growth is not equally advisable, because the lady does not wish to have the tumours removed. At present they are small, smooth, and movable, but may rapidly enlarge at any time.

Cheltenham.

### A READY METHOD OF REMOVING FOREIGN BODIES FROM THE ANTERIOR NARES.

By T. OSBORNE-WALKER, M.R.C.S.

I HAVE many times been called upon to remove peas, buttons, and various substances from the nostrils of children, who have themselves introduced them there. The last case occurred to a little boy, whom his mother brought to my surgery on Aug. 1st with a boot-button tightly impacted in the angle between the vomer and os nasi at the bridge in the right nostril. Ineffectual attempts at extraction had evidently been made, as shown by blood oozing from the nostril, and some, coagulated, adherent to the button, partially concealing its outlines from view, and also by the button being fixedly jammed in. As is my practice in such cases, I first confined, to prevent struggles and interruption, the child's arms, hands, and legs, by folding tightly round these and the body a long, clean white apron, which the mother was wearing, and then, placing the child on his mother's lap, facing a window, while I stood behind the patient, and, bending over and depressing with two fingers of my left hand the apex of the nose, to admit as much light as possible upon the object to be removed, I introduced with my right hand very carefully, to avoid its descent into the pharynx or larynx, the spoon end (with the concavity directed forward) of an ordinary pocket-case director, with which I ejected at once the button with a simple lever movement or jerk.

By attention to the following points the removal is instantaneously effected: The close confinement of the hands, arms, and legs by a shawl, blanket, or apron; a good light; a reliable person to securely hold the child; the position of the operator behind the patient; depressing well the apex of the nose to obtain a good view of the object; and lastly, getting the concave face of the spoon of a director fairly behind the body before making the forward lever movement.

Crick.

### IMPERFORATE ANUS.

By JAMES DALGLEISH, M.B., C.M. EDIN.

THE following case is, I think, worthy of consideration as showing how much may be left to nature in the repair or growth of the tissues in very early infantile life.

My attention was called to the fact that an infant, otherwise quite healthy, at the fourth day of its life had not had any motion of the bowels. On examination I found the anus apparently normal. The appearance was, however, deceitful, as on entering my digit I discovered that it terminated in a *cul de sac* about an inch deep. I pierced the mucous membrane forming its floor, through an ear-speculum, with a tenotomy knife, but was disappointed to find that no meconium appeared, and that evidently there was more abnormal than the septum of mucous membrane I had expected. The child was being well nourished and showing little sign of discomfort. The next day I operated. Without enlarging the natural external aperture, which was dilatable enough to admit my forefinger, I found by cutting through an amount of cellular tissue, which occupied the place of the rectum, that the bowel terminated as high up as my finger could just reach with an effort—i.e., about three and a half inches. With my finger, carbolised, I broke down a clear passage to this point, and, pushing my knife on the flat along my finger, I freely incised an opening in the gut, when there was a most plentiful flow of meconium, and presently the ordinary fæcal discharge. Beyond instructions towards the greatest possible cleanliness, I took no more pains in the case, and now, two months later, there has evidently been a downward growth of the mucous membrane to form a rectum. The child has regular motions, and, as far as the *primæ viæ* are concerned, has never shown a bad symptom. The reservation I make simply refers to an attack of bronchitis from which it has since suffered.

Trowbridge, Wilts.

### CASE OF SUPERFŒTATION.

By GEORGE GILES, L.S.A.

As there has been a great diversity of opinion upon the possibility and probability of the above subject, the following facts may be of interest.

On Aug. 6th, 1887, Mrs. H——, who had gone to visit her mother in Holbeck, was suddenly taken in labour, and Dr. Mann (Messrs. Mann and Woodcock) attended, and delivered her of a fœtus at half-term about 8 P.M. Being compelled to go to another case about 11 P.M., Dr. Mann requested me to call and see if it was not a case of twins. I did so, and on external manipulation found another fœtus, and which I got away alive (the first being dead), about fourteen inches long, weight about four pounds, and which appeared about seven months and a half old, although very livid. This child lived from two to three hours. The placentæ were quite distinct (the second placenta being of a large size). The liquor amnii was also separate. It is quite evident that when gestation had progressed from two and a half to three months, in the case of the elder fœtus, that a secondary conception undoubtedly took place, the second ovum becoming developed independently of the first. I have preserved the first fœtus, the second having been interred before I called again. The question of bifid uterus I did not ascertain, but up to the present the woman is doing well. Playfair says it is probable; Galabin does not make any note of it.

Leeds.

# A Mirror
OF
# HOSPITAL PRACTICE,
## BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

## NORTH LONDON HOSPITAL FOR CONSUMPTION.

### EMPYEMA OF FOUR YEARS' DURATION TREATED BY INCISION AND DRAINAGE; MELANCHOLIA; REMARKS.

(Under the care of Dr. SQUIRE.)

THE treatment of empyema by incision and drainage in cases where it seems hardly probable that any good can be done in other ways, because of disease in other parts and the feebleness of the patient, receives encouragement from the record of the following case. Four years is a long time for the disease to exist in these days when the treatment is fully recognised, and cases seldom present themselves for help at so late a stage. Extreme emaciation and feebleness, some hectic, wearing cough with profuse expectoration, with signs of disease in the lungs, and albuminuria made the man's condition most serious. The onset of melancholia when otherwise the patient was progressing satisfactorily is interesting. For the notes of the case we are indebted to Mr. P. Moriarty O'Brien, resident medical officer.

G. S—— was admitted on Feb. 3rd, 1887, in a very weak condition. Family history good. The patient was strong, and had always been healthy till four years previously. He then had a rigor; no symptoms followed, and he was able to resume his work next day, and continued working for two months, when he again had a rigor, this time very severe in character. He was then compelled to give up work, as he felt very ill. Cough, with free muco-purulent expectoration, vomiting, dyspnœa, loss of appetite, sweats, and great thirst were present, but there was no pain to speak of. He was then admitted into Whitchurch Infirmary, where he remained nine months. During this time he improved, his breathing became better, and towards the end of the time he began to gain flesh, and to be able to walk short distances. On leaving the infirmary, he went to Andover Union, where he remained between four and five months, his condition remaining about the same. Since leaving the union he had been at home, gradually losing flesh and strength, and had been bedridden for the last two years. During the first seven months of this time, the expectoration increased in quantity. An abscess then formed in the right side, which broke and discharged a quantity of offensive pus. Three sinuses formed (two of which had healed during the last two months). Following this discharge of pus, the expectoration diminished in quantity, but remains considerable even to the present time—upwards of a pint in twenty-fours; this, however, is steadily diminishing. For some months the discharge from the sinus remained very profuse, but gradually lessened, and is now less than an ounce in twenty-four hours.

*Present state.*—The patient is a medium-sized, fair-complexioned man. He has the appearance of having been very strongly built, but now appears very weak, and is unable to stand without assistance. His face has a pasty appearance, very unhealthy and pallid. The skin is hot and clammy; no lividity or duskiness. The finger and toe ends are clubbed. No œdema now present or recollected. Decubitus almost entirely right-sided; rarely dorsal; never left-sided. Tongue clean, moist, and fairly healthy in appearance; appetite good; bowels regular; no diarrhœa; no sickness except sometimes on coughing. There has never been any hæmoptysis, but the phlegm has occasionally presented streaks of blood. Night sweats slight, and occasional sweating of hands and feet, profuse at beginning of illness. The cough is not very troublesome; it comes in fits, and is accompanied by retching. The expectoration is profuse and muco-purulent (it amounts to upwards of a pint in twenty-four hours); during the fits of retching half a pint is brought up. There is no distress, pain, or dyspnœa (formerly a marked symptom), and he speaks without effort. Specific gravity of urine 1024; slight amount of albumen, also slight mucous deposit. Pulse 96, regular, sustained tension, and firm. Temperature in the morning, 98°; evening, 101°. The following are the physical signs: On inspection the remains of a large chest are found, the bones being large and spaces wide; the coverings are much wasted. On the right side there is marked bulging in the lower mammary region from the fourth to the seventh rib, and laterally from the right border of the sternum to the anterior axillary line, but the whole right side appears fuller than the left. On deep inspiration the right upper front above the nipples appears motionless, and is much flattened; the same region on the left moves well. Clavicular hollows not marked. The sinus above mentioned is situated in the fifth space in the anterior axillary line, two inches and a half below and an inch and a half posterior to the nipple line. The inferior costal spaces on this side are difficult to define, the tissues appearing matted together. No fluctuation to be made out; no mapping out of the superficial veins, except about the shoulders, and here only slightly. Left mammary region below the nipple flatter than normal. Palpation shows absent vocal fremitus below the nipple on the right side; slight above this, and fairly good in scapular regions; good all over the left side. On percussion an impaired resonance is found over the front of the left apex, extending to the second rib; there is dulness in the supra-scapular region, but good note elsewhere. On the right side dulness, differing in degree and character, is found all over the lung. Good resonance is found in the mid-sternum, but less of resonance in other regions; high-pitched to the third rib and in the supra-scapular fossa. From this level to the fifth rib level, and over an area oval in shape, measuring five inches by four, the long diameter reaching to beyond one inch in the nipple line, there is a note, hollow in character; in the axilla there is absolute dulness. Posteriorly the mid-scapular dulness is less wooden in character than over the back generally. Auscultation shows over the left side coarse respiration. Inspiratory murmur exaggerated all over; more harsh in character over the apex, where bronchophony is heard; there is undue conduction of heart sounds all over the front. On the right side, practically nothing audible, respiratory or adventitious, beyond very faint entry of air at the extreme apex in front. Suspicion of scraping friction sounds over the mammary region; no ægophony, or any approach to it. Cardiac dulness commences at the upper border of the third rib, and extends on the left side as far as the nipple line. Impulse is seen in the third and fourth spaces; the maximum intensity is felt in the fourth space in the nipple line. Friction sound heard in the second and third spaces, on the left side occasionally double. Very faint sawing bruit localised at apex; sounds are ringing.

Feb. 16th.—The patient's condition has remained much the same as on admission. He has vomited once in twenty-four hours; during a fit of coughing, bringing up about half a pint of muco-purulent material. The opening in the right axillary line was enlarged by Mr. Godlee to-day, two small portions of rib removed, and a drainage tube inserted. Chloroform was the anæsthetic used. During its administration blueness of the face, pallor, and coldness of the extremities, with much troublesome cough, were noted. Forty ounces of fetid pus came away through the incision. The probe showed a large cavity extending almost to the apex; the ribs were very much approximated, extremely soft, and spongy. The wound was dusted with iodoform, dressed with boracic lint, over this being placed a pad of tenax, and then the bandage. The wound was dressed again in the evening, the discharge being profuse, coffee-coloured, and offensive.

17th.—Wound dressed this morning; discharge same as last evening. Much nausea existed after the chloroform, which was relieved by sucking ice.

19th.—From this date onwards the cough and expectoration ceased, the temperature not rising above 98·4°, and the general condition improving. The area mentioned above—viz., third to fifth rib—in which the note was high pitched, has extended into the axilla and upwards towards the apex. Some crackling sounds heard over the cardiac area; no bruit. Discharge changed gradually to a chocolate-coloured, thick, offensive pus.

March 2nd.—Felt faint twice to-day; pulse 104, full and feeble. Drainage not sufficient, so that it was necessary to turn the patient on his side to empty the cavity. Amount

diminished; still offensive. Harsh tracheal breath sounds now heard over inner half of infra-clavicular region; elsewhere no sounds to be heard; here and there echo and bell sounds on percussion of coins; on the left side the crackling sounds heard over the cardiac area have extended.

7th.—Wound dressed daily. Discharge lessening; reduced to two ounces to-day; not offensive now. The tube, which at first caused distress through pressure on the diaphragm, which ascended after the evacuation of the pus, was shortened, and now causes no pain. The patient is still faint on assuming the sitting posture. Cavity contracting to a sinus, and external opening showing great tendency to close.

20th.—Discharge now reduced to less than one ounce. Cavity much contracted. Tubular respiration extending a good deal over the chest. For the last few days the patient has been very troublesome, desiring to leave the hospital. Has suffered from melancholia during the last four or five days, and last evening, taking advantage of the relaxation of watchfulness on the part of an attendant, obtained possession of a knife and inflicted a wound on his throat. The wound was cross-shaped and jagged, but superficial. There was a good deal of venous hæmorrhage; this ceased on bringing the edges together. The wound was dressed with eucalyptic ointment.

25th.—Suffered no ill consequences from the wound in the throat, which is healing by first intention. There is still about an ounce of discharge from the chest. Melancholia still present.

April 2nd.—Wound in neck healed. Tube to be removed from chest in a few days. Patient up for the last few days; much stronger. Left the hospital this afternoon against advice, as he is still very weak.

On making inquiries as to the patient's present condition, it was ascertained that he had retrograded, and now resented any interference. His mental condition seemed to be much worse. In the words of the gentleman who saw him, "He seemed scarcely himself," and was the cause of much trouble and anxiety to those attending on him.

*Remarks by* Dr. SQUIRE.—It is now fortunately rare to see an empyema that has been allowed to burst through the chest wall. This burst at the point most commonly selected—namely, the fifth interspace anteriorly, between the serrations of the serratus magnus. The long continuance of the disease made permanent cure almost impossible; but free exit for the pus gave much relief, and the almost entire cessation of cough after the operation fully justified its performance. The weakness due to the long and wasting illness at last resulted in melancholia.

## ROYAL SOUTHERN HOSPITAL, LIVERPOOL.

### A CASE OF INCISED AND PENETRATING WOUND OF ABDOMEN, WITH PARTIAL DIVISION OF SMALL INTESTINE; PUNCTURE OF SIGMOID FLEXURE IN ONE, AND OF MESENTERY IN FIVE, PLACES; COPIOUS HÆMORRHAGE; COLLAPSE; DEATH; NECROPSY; REMARKS.

(Under the care of F. H. WIGMORE.)

FOR the notes of this case we are indebted to Mr. R. Hamilton.

G. M——, a fine, healthy-looking man, aged twenty-nine, was admitted on July 23rd, with an incised and punctured wound of the abdomen, two inches and a half long, and running obliquely downwards in much the same situation as the incision which is usually adopted for ligature of the left common iliac artery. About six feet of the small intestine protruded through the wound, and lay upon the abdomen, while the mesentery, bleeding profusely, was tightly nipped in the incision, and thus prevented any backward flow of blood into the peritoneal cavity. The general condition of the patient was one of great pain, prostration, and collapse. No time was to be lost. It was necessary to control the hæmorrhage. The man was therefore placed at once upon the operating table and ether administered. The mesentery was punctured in five places—in one torn from the small intestine, which at that spot was bruised, though not lacerated to perforation,—and the hæmorrhage from these was prevented by the introduction of five ligatures through the substance of the mesentery, including in their tightened loops the bleeding vessels. The gut was then examined, and found to be cleanly divided through half its circumference. With a continuous suture of catgut the edges were brought into apposition. In two places the bowel was slightly bruised. The whole of the protruding gut and mesentery was carefully washed with a warm solution of perchloride of mercury (1 in 2000), and returned to the abdomen. There was no hæmorrhage, effusion, or fæcal extravasation into the peritoneal cavity, and the wound was closed in the usual manner with silver sutures. The spray was used throughout the operation, and a dressing of salicylic wool applied. At one stage of the proceedings the collapse was very extreme; the pulse failed, and the general aspect of the patient was that of impending death. A hypodermic injection of ether (fifteen minims), hot flannels, and an enema of two ounces of brandy to some extent rallied him, and he was put into a warm bed, with hot bottles. The temperature immediately after operation was 96°, pulse 160, and respiration 50.

As the collapse continued, two drachms of brandy were ordered to be given every quarter of an hour, with a hypodermic injection of ether alternating with them, and the continuous application of hot flannels. Any diminution in this stimulation caused an immediate failing of the pulse. After three hours and a half the general condition was to some extent improved. The bowels were moved twice during this period; the stools contained no blood. He passed his urine without instrumental interference. At 9 P.M. (five hours after the operation) he began to complain of nausea, and the stimulants were reduced and a grain of opium given. At 10 P.M. the temperature was 98°; pulse 120; respiration 47. At 10.30 A.M. he vomited, and this recurred eight times up to 1.55 A.M., when it ceased. Ice to suck, iced milk in very small quantities, and two drachms of brandy were given every hour. The pulse frequently failed, and this was met by hypodermic injections of ether. At 12.35 he complained of great abdominal pain, and an ice-bag was applied and continued until 4.25 A.M.; it gave him some relief. At 3.30 the temperature rose to 98·4°; pulse 150; respiration 27. At 7.30 A.M. the bowels were again moved. After this hiccough commenced; the temperature fell to 96·4°; pulse 84; respiration 46. At 9.50 A.M. he became quite collapsed and died, consciousness remaining with him to the last.

*Necropsy by* Mr. DIXON.—The abdomen was not distended, but retracted. The wound was healthy. The under surface of the great omentum was found slightly adherent to that part of the small intestine involved in the injury, and the coils here were themselves slightly matted together by threads of plastic lymph. There were no signs of repair in the wound of the gut. The bowel had sloughed in two places opposite points at which the mesentery had been tied to stop hæmorrhage, and corresponding with the bruises noted above. On lifting the intestine, fæces were extravasated through these perforations. No extravasation had occurred during life. Two small clots of blood were discovered adhering to the mesentery. A further examination disclosed a puncture of the sigmoid flexure close to the rectum. The perforation was just large enough to admit a probe of medium size, and was surrounded by a greenish slough, the outer margin of which passed into a congested zone, gradually shading off into the natural healthy colour of the contiguous gut. The other organs of the body were healthy.

*Remarks.*—This case illustrates very well the great and lasting collapse which immediately follows a serious injury to the abdomen and some one or other of the contained viscera, and the difficulty there is in rallying the patient from this condition of utter prostration. It might be interesting to note what part is played by mental emotion in the production and continuance of shock, and whether in such a state it is better to administer ether or chloroform when necessity requires an anæsthetic. When the patient's mind is quiet, large and grave operations may be performed without any of these serious and distressing symptoms presenting themselves. In this particular case the deceased was pursued some distance by a man who held a two-edged table knife, with which he intended to perpetrate the act he subsequently accomplished. The deceased is said to have turned round and met the knife in its descent, and then to have rushed about the street, crying out, and with his intestines protruding. Here, at any rate, mental emotion must have been considerable; and when his depositions were taken his pulse failed at the sight of the prisoner, and his already grave condition was aggravated. During the operation the pulse and general state became worse, and this notwithstanding the hæmorrhage had stopped and ether was administered. Under the careful use of chloroform in cases of this kind, a marked improvement has taken place. The exhibition of opium

or morphia in cases like this is a great part of the recognised treatment. The pain, vomiting, and the passage of three stools all pointed to an injurious activity of the gastro-intestinal tract; but after consultation it was agreed that the prostration contra-indicated its present use. The usual difficulty in the administration of stimulants arose here, as it does in cases of a like or diverse nature. The effect of the brandy upon the pulse was watched with extreme care. This case is one in which the use of stimulants was advantageous. Too often they are given in set doses, and not increased or diminished as the fluctuating circumstances demand. Thus the end of their beneficial tether is soon reached, and no further stimulation is possible. Besides, after a certain point is arrived at, which will vary with each individual, the stimulating effects of alcohol give place to symptoms closely approximating narcotism. The sloughing of the gut where bruised is of interest, for the bruising alone did not seem sufficient to account for the death of the part. It seems strange that, with so free an intercommunication between the vessels, the cutting off of the blood supply to so slight an extent should have operated adversely. Had the bruising not been present, the mere tying of the vessels would not, in all probability, have produced the results discovered at the necropsy. Had the bruising alone been present, it does not appear as an adequate cause of such an end. Again, would it have occurred if shock had not brought all vital processes to a minimum? This opens up that important question, still shrouded in so much, but lessening, obscurity, What part is played by nerve force in the development, production, healing, and nutrition of the human tissues?

# Notices of Books.

*The Commonhealth.* A series of Essays on Health and Felicity for Every-day Readers. By BENJ. WARD RICHARDSON, M.D., F.R.S. London: Longmans, Green, and Co. 1887.—The great and general interest which attaches to all questions of sanitation is much enhanced when these are, as in the work before us, presented to the reader in a simple, free, and lucid style. The twelve lectures contained in this volume derive an additional charm from the fact that they are largely concerned with those aspects of hygiene which appear in the round of every-day life. They are not free from the pleasing mirage of poetic enthusiasm, the sometimes too fervent hope of fresh conceptions, but they also abound in tried wisdom and shrewd practical suggestion. The first, entitled "The Seed-time of Health," conveys some excellent advice respecting the management of children, that part of it which deals with the evils "inflicted" on the health of childhood being particularly noteworthy. In two following discourses recreation is made the subject of careful treatment. If at times the author seems to strain somewhat his argument against certain forms of exercise, as when he asserts that no positive good has accrued to the public health from the Volunteer movement, and condemns wholesale as dangerous rowing, football, and polo, there is much that we can cordially endorse in his downright reprobation of the feverish excitement, the overdone competition, and the practice of laying wagers, which accompany so many amusements and mar their good effect on mind and body. It must also be admitted that after all exceptions there remain many forms of healthful recreation which receive a word of warm approval. Physical exercises as a part of our national system of education are discussed with a due appreciation of their value. The chapters on school work, indeed, contains many other practically useful suggestions. "Cram" receives, as might be expected, unsparing condemnation; and there is wisdom in the remarks which inculcate on parents and teachers the duty of studying the constitutional types of children, in order that they may regulate their training accordingly. The subject of Dress is treated in some detail, with commendably free criticism of the existing code of fashion, but in a tone equally commendable for its moderation. There are chapters on the Diseases of Public Life; on Women as Sanitary Reformers—a useful treatise, requiring of women, perhaps, too deep an insight into physiology and hygiene for any but a leisured few to attain to or apply, though not more than is desirable; on the Poverty of Wealth, advocating neither poverty nor wealth but a happy mean, on Cycling as a Health Pursuit, and on Felicity as a Sanitary Research. We have not space at our disposal to discuss the merits of these various papers. Each of them is well worthy of perusal, and readers, if they find in them not a little debatable matter, will also find much that is instructive in itself and pleasing in its presentation.

*The Laws relating to the Adulteration of Food and Drugs.* By WILLIAM JAMES BELL, B.A., LL.M., Barrister-at-Law of the Inner Temple. Printed for private circulation by Walter Eyre, New-square, Lincoln's-inn. 1887.—It would have been better if Mr. Bell, to whom we already owe a useful treatise on the Sale of Food and Drugs Acts, 1875 and 1879, had published this thesis in the ordinary way; for it is calculated to be useful to all who are interested in the subject of adulteration. It may be divided into three parts—the first historical, the second descriptive, and the third critical and suggestive. The historical portion, though short, is exceedingly clear. Adulteration is spoken of by Pliny, and has in England been made the subject of many enactments; but no comprehensive law was passed until after public attention had been drawn to the matter by THE LANCET in the well-known reports of the Analytical Sanitary Commission, which commenced in 1850. The history of the present Acts follows, with a summary of their provisos and an excellent criticism on their shortcomings. As we have often pointed out, the gravest defects of the Acts are the want of fixed standards and the extreme irregularity of the machinery for enforcing analyses and securing due punishment for offences. Finally, we have a series of sensible suggestions for the amendment of the present law, and are glad to be able to agree with most if not all of them. We should indeed prefer, as Mr. Bell does, that a new Act be passed, and that it should be wide enough to cover all adulterations, including those of butter; but we do not deny the possibility of meeting some of the present difficulties by an Amendment Act, which should confer more stringent powers upon the Local Government Board, as well as upon local authorities. On one point we must dissent from Mr. Bell's opinion, for we cannot see how the public is to be protected against the sale of very inferior milk, unless some limit of strength is fixed by law. Of course the fixing of such a limit unfortunately implies permission to water or skim down to it, but that is freely practised at the present time, and cannot be stopped by inspection or analysis. We can only hope, in conclusion, that if Mr. Bell does not publish his thesis, he will at any rate include it in the next edition of his book.

*The Asclepiad.* No. 15. Vol. IV.—This number is appropriately devoted to the Jubilee purpose of showing the advancement of medicine under the auspicious reign of Queen Victoria, and it gives a good epitome of the great advancements made in practical medicine, preventive and curative, by—as Dr. Richardson neatly and with true Imperial purpose phrases it—the Victorian Faculty of Physic throughout the empire. From a humane point of view, doubtless, the author is right to give the first place to the advancement made in the treatment of the insane; we feel disposed to think, however, that what the author terms "the *second* great advancement of practical medicine" should have been assigned the first place, and chiefly on account of the utilitarian principle; for the proportion of actually insane people is fortunately small, whereas the benefits of preventive medicine are practically universal, and the application of results achieved in this sphere must

benefit the whole of civilised mankind. Even from a standpoint of nobleness of aim and splendour of achievement, preventive medicine should, we think, be assigned the first place. Indeed, it is clear that Dr. Richardson would not largely disagree with us on these points, for we find him writing: "Medicine, in her practical handiwork, never did anything more noble than when she put her hand to prevention." Attention is properly paid to the importance of the step which was taken in 1837, when on a sound basis a public and systematic registration of births and deaths was instituted, and when a weekly publication of mortality-returns and of the causes or diseases by which death was brought about was begun in good earnest. But with the advancements in preventive medicine it would be more fitting to deal in another place than in a notice of a quarterly journal. A high place in the record of advancement is necessarily assigned to anæsthesia, and with admirable fitness the biography of this number is concerned with one whose achievements were made in the several departments of advancement, and whose name will long live as a worthy type of the English scientific observer—Dr. John Snow.

*Militärmedicin: kurze Darstellung des gesamten Militär-Sanitätswesen.* Von Dr. H. FRÖLICH, K. Sächs Oberstabsarzt, 1 Cl. Braunschweig: Friedr. Wreden. 1887. (*Military Medicine: a short Exposition of Universal Military Matters.* By Dr. H. FRÖLICH, First Class Chief Staff Surgeon of the Saxon Army. Brunswick: F. Wreden. 1887.—As a handy book of reference, Dr. Frölich's work will be very useful to military surgeons of every country—at all events, to those of them who read German. After a short historical account of the literature of the subject, including references to Deuteronomy, Egyptian papyrus MSS., and Greek and Latin authors, a voluminous list of works published in various countries during the present century is given. The body of the volume consists of chapters on the *personnel* of the medical services of different armies, military medical education, recruiting, hygiene and diseases, and statistics of various kinds. Descriptions, with occasional illustrations, are given of various methods of transporting the wounded, and of arranging field hospitals and tents generally. The rations and clothing of the different armies are described, and a tolerably complete list of the more important works and papers on the different special subjects is appended to each chapter. The index would be more useful if it were more detailed. A good description is given of the arrangements at Netley, more space being allotted to this than to any continental military medical school.

*An Address to Asylum Attendants "off Duty"—Invalided.* By the Rev. HENRY HAWKINS, Chaplain of the Middlesex Asylum, Colney Hatch.—This little work supplies a want which must often have been felt by asylum chaplains and superintendents. It contains words of comfort for sick attendants, and advice to them during their illness to set their house in order and to sympathise with their fellow-sufferers. It should, we think, be distributed to the attendants in asylums, not only when they are ill, but when they are in good health; and if they take the kind words contained in it in a grateful spirit, it would doubtless have a practical effect upon their lives and actions. Attendants as a class are not only healthy in body, but also conscientious in the discharge of their duties. But there is no reason why we should not make attempts to improve them, as suggested in this pleasant little volume, which has been so carefully written for their benefit.

*The Misuse of Marriage: A Voice.* London: Remington and Co.—The aim of this little book is chiefly to denounce unequal marriages—namely, those between old men, who may have led immoral lives, and young girls. The author states that such marriages are reprehensible from every point of view, frequently entailing domestic scandals and divorce cases, and inflicting injury not only on the wives but on the children. He remarks, "When I see the legitimate requirements of a woman's nature trampled under foot by selfish and unprincipled men, it does not require any profound knowledge of physiology, psychology, or any other ology to say her offspring must suffer. I have heard over and over again from the mouths of the young that they cannot help this or that besetting sin or maniacal outbreak of passion, and it has caused me no wonder when I reflect how many children are infamously begotten, not only *in* sin, but *by* sin." He also states he has heard women remark that they do not mind what a man's previous life may have been if he remain true to them after marriage. To this he says: "To think that the past life of one half in making a whole does not affect the other half is one of those delusions which accompany vicious moral teaching. There are scientific reasons, I maintain, for what I advance in this paragraph. The impure life of one has often been the physical ruin of the other, and still more often the cause of the foulest moral pollution." On this point it is impossible to speak too strongly, and women would consult their own interests, that of their children, and the highest interests of society and morality, if they refused to marry or to give their daughters in marriage to men who are known to have led distinctly immoral lives.

*La Chirurgia Renale* (Renal Surgery). By Professor ANTONIO D'ANTONA. Rome: 1887.—The *brochure* before us is an address delivered before the Italian Surgical Society. Professor D'Antona briefly but fairly reviews the subject from the time of Simon's (of Heidelberg) first operation in 1871 to the present time; he then discusses the diagnosis, symptoms, indications, and contra-indications, and the methods of operating, founding his observations on his own personal experience of nine cases. These include one case of tubercular kidney and one of sarcoma, both successfully removed. The address is interesting as a record of practice, although it does not contain anything either very startling or very new.

*The Ten Tribes.* By ALDER SMITH, M.B., F.R.C.S. Robt. Banks and Son.—Dr. Alder Smith has published in pamphlet form a paper he recently read before the Prophecy Investigation Society upon the Ten Tribes, in which he supports the view that they are to be looked for amongst a number of apparently Gentile nations. There is no question of a physiological or medical nature touched upon, but the paper is worthy of perusal by all who take an interest in ethnological questions as connected with the historical and prophetical portions of Holy Writ.

*Lewis's Pocket Case-book for Practitioners and Students.* Designed by A. T. BRAND, M.D. London: H. K. Lewis.—This is a convenient pocket-book, with pages so mapped out as to give at a glance, under the heading of the different systems, the principal symptoms and facts of any case, with a page or two to spare for comments, therapeutical or otherwise. It is short and compact, and presupposes brevity and concentration in the practitioner; but it seems calculated to supply a want.

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MADRAS MEDICAL COLLEGE.—The anniversary of this College was held in July last, Deputy Surgeon-General Roe being in the chair. The report of the 52nd academical year of the institution showed a steady maintenance of its prosperity. A remarkable feature in the returns of the examinations was the large percentage of failures in the Primary. Of 78 candidates who went up for the first L.M.S. only 18 passed, the weak point in most cases being Practical Anatomy. In the Preliminary Scientific, again, of 15 candidates only 4 passed. These large percentages of rejections indicate a state of things which seems to require earnest investigation. An address was given by Surgeon H. A. F. Nailer, one of the professors, and the meeting was brought to a close by some useful remarks by the chairman to the past and present students of the College.

# THE NINTH INTERNATIONAL MEDICAL CONGRESS.

(FROM OUR SPECIAL CORRESPONDENTS.)

*Per Anglo-American Telegraph Company.*

ON Wednesday, the 7th inst., at the meeting of the *Surgical* Section, an important discussion took place on Laparotomy, following various papers on this subject, on Gastrotomy, and Foreign Bodies in the Œsophagus. Amongst the speakers were Dr. Richardson (Harvard University), and Dr. Sayre (New York). The Treatment of Abscesses from Diseased Vertebræ formed a subject of debate by Mr. Edmund Owen (London), Dr. Sprengel (Dresden), Mr. Chavasse (Birmingham), Dr. Lange, and many others.

In the *Medical* Section, the Natural History of Disease was introduced by a paper by Dr. Ouchterlony (Louisville), and gave rise to an animated discussion, in which Drs. Arnold (president of the Section), Hemingway, Scott Bell, Pavy, and others joined. A paper by Dr. Cerothers (of Hartford, Conn.) on Diseases Induced by Inebriety gave a historical *résumé* of the subject. The author regarded inebriety as a central brain disease, and always associated with brain and body degeneration, largely inherited. The tendency to inebriety often followed, directly or indirectly, from disease or injury. The symptoms of direct physical causation were very common, but often masked. Treatment in hospitals he believed to be a necessity. Inebriety was a complex psychosis. It was increasing in the United States, and required very careful study and treatment. A good discussion followed the reading of the paper.

In the *Hygienic* Section, Dr. B. W. Richardson (London) read a valuable paper on the Growth of Preventive Medicine in Great Britain. Dr. Friere (Rio Janeiro) brought forward the subject of Vaccination in Yellow Fever, and exhibited specimens and preparations showing the microbe of the disease. He extolled vaccination as a prophylactic against yellow fever, and declared it to be safe and efficiently protective. At the conclusion of the discussion on this paper it was resolved: "This Section recommends co-operative investigations of results from inoculation as a protective, and that the Governments of various countries should assist in the work." Dr. Seaton (Chelsea, London) read a paper on Metropolitan Defences against Infectious Diseases by means of Hospitals, Ambulances, Ships, &c. The chief difficulty in London, he said, was the multiplicity of authorities. In the provinces it was much better.

In the *Obstetrical* Section, the discussion on the previous day's paper on Cæsarean Section was maintained by Professor Simpson (Edinburgh), Dr. Martin (Berlin), Dr. Headley (Melbourne, Australia), Dr. Doleris (Paris), and others. In the afternoon the subject of the Relation of the Atmosphere to Puerperal Fever was introduced by Dr. Kucher; that of Puerperal Septicæmia, by Dr. Madden (Dublin), in a paper read by Jaggard; and that of the Intra-uterine Douche and Curette in Puerperal Fever, by Professor Earle.

In the *Gynæcological* Section, the question of the treatment of Uterine Fibroids by Electricity was brought forward by Dr. Cutter, which gave rise to a lengthy discussion. Dr. Graily Hewitt then read a paper on the Relations of Changes in Tissues and Changes in the Shape of the Uterus. Gynæcologists, he said, were often reproached because displacements diagnosed during life were not disclosed at the necropsy. Chronic metritis covered a large number of conditions. A softened condition of the cervix uteri, due to loss of tone, was often associated with flexion, and arose from want of general nutrition. This softness, occurring at puberty, might disappear as health was regained or became permanent. Undue softness might lead to chronic metritris, but was not the disease itself. He quoted approvingly Dr. Mary Jacobi's study of endometritis, and thought the affection to be exceedingly rare. Dr. D. W. C. Wade, speaking on displacement of the uterus, put his remarks in the form of axioms, some thirty-nine in number, and dwelt upon the importance of such conditions, the necessity of examination, and the adoption of means for their relief. He made his own pessaries of copper wire covered with soft rubber. Results of Operation of Shortening Round Ligaments for Displacement of the Uterus, was the title of a paper read by Dr. W. L. Reed, of Liverpool. He had operated in thirteen cases. He quoted the opinions of a number of operators, the bulk of whom were adverse to the operation. When the perineum was destroyed, it might be advisable to perform this operation preparatory to other methods. Seven of his cases operated upon were successful. Dr. J. H. Kellogg made some observations on uterine displacement corrected by modifications of Alexander's operation. He had performed the operation twenty-two times, and believed it to be indicated in marked displacements of the uterus either backwards or forwards. The procedure might also be found beneficial in displacements of the ovaries, and might, he believed, frequently be substituted for extirpation of those organs.

The evening of Wednesday was devoted to social festivities. A garden party was given in the charming residence of ex-Commissioner Mr. Josiah Dent. The presentations were made by Dr. Ruth, of the United States Navy. The beautiful grounds were crowded with visitors. In the course of the evening receptions were held to foreign members by representative and Mrs. Glover; also at Mr. Thomas Wilson's. The elegant suppers were attended by streams of guests from 8 to 12 o'clock. The members of the Dental and Oral Section were entertained at dinner by Dr. Baxter, medical purveyor to the United States Army, and Dr. A. R. Robinson (New York) entertained the dermatologists at an elegant banquet.

On Thursday the fourth general meeting was held, at which Professor Unna of Berlin delivered his address on Dermatology. He spoke of the relation of dermatology to general medicine and of the interest the subject should have for the general practitioner, as skin diseases entered so largely into his work. Dermatology was a branch of pure science, but in that respect it was still young, and would require the conscientious labour of ardent competent observers before it could take the rank it merited. Serious difficulties had hindered a proper study of skin diseases, and had prevented many from devoting themselves to it. From time to time men of distinguished ability had taken the subject in hand and had given themselves up to it. Under their fostering care great progress had been accomplished. This department of medicine required special organisation for its study and treatment. It had a physiology and pathology of its own. What was wanted was a central organisation where the subject could be studied as a whole, where morbid symptoms, structural alterations, and the general course of disease might be watched. There were diseases due to external causes, constitutional condition, season, climate &c., in all countries, races, sex, and age. Among external agencies, parasites occupied a most important place in nosology, probably because the effects were visible to the naked eye. The proper study of dermatology would do much to advance other branches of medicine, both surgical and medical, the position and relation between them being intermediate. The Professor recommended, instead of making experiments on animals for pathological and physiological purposes, that human skin should be used. He quoted numerous experiments made in this way tending to prove that this method had already led to the discovery of new facts. The founding of additional lectures and the establishment of private laboratories were required in order to carry out the proper investigation of the phenomena of skin disease. This branch would ultimately become one of the most important departments in the study and practice of medicine. He expressed a hope that the Government of the United States, with its accustomed liberality, would be the first to see the necessity for changes such as he had suggested, and put them into practice.

In the *Medical* Section the subject of Morphology of Rheumatic Blood was introduced in a paper by Dr. Cutler of New York. 1. The form of elements found in the blood of rheumatic patients he classified as follows: (*a*) Oxalate of lime; (*b*) cystinic; (*c*) phosphatic; and (*d*) uric acid. 2. The peculiarities of the red blood-corpuscles and serum, including thrombosis and embolism. 3. Lantern illustrations of the pathogenesis of albuminuria. Professor Semmola spoke on points of Treatment in Typhoid; Dr. Shingleton Smith on Diabetes; and Dr. Pavy, of London, to a very large audience, described the condition of the blood in the disease, the experimental induction of diabetes, the best modern test for the presence of sugar in the urine, the early diagnostic signs, and the best method of treatment. The diet should consist of meat, butter, cheese, and a little milk and almond

bread; whilst the medicinal agent to be employed was opium or codeine.

In the *Surgical* Section, the discussion on Dr. Richardson's paper on Gastrotomy was resumed. Dr. Assally of Bucharest extolled the merits of iodol in surgery. He said that, externally, iodol retards suppuration, deodorises and hastens healing; it was efficacious in chancres, and was superior to iodoform. There was no unpleasant odour, and it was not toxic in its effects. It was good internally in secondary syphilis, in paracentesis, and the early stages of hip-joint disease.

Mr. Edmund Owen (London) read a paper on Endocranial Surgery. Professor Durante of Rome read an interesting paper on Cholera Infantum. Dr. Maxwell of Florida showed that the usually assigned causes were not sufficient to account for it; they were only contributory, not proximate. The true cause was not yet known; it would probably be found to be a micro-organism. He advocated the use of steam as a disinfectant.

In the *Gynæological* Section Dr. Bell read a paper on Vaginal Extirpation of the Uterus for Carcinoma; Dr. Jackson one on the Modern Treatment of Uterine Cancer; and Dr. Treholme, one on Extirpation of the Uterus for Bleeding Myoma.

In the Section of *Obstetrics* a long and animated discussion was continued on Puerperal Septicæmia, in which Professor Simpson of Edinburgh, Dr. Grailly Hewitt, Dr. Cameron of Montreal, and others shared.

In the Section of *Diseases of Children* an elaborate paper on Nutrition of Infants was contributed by Professor Leeds of New Jersey. The author divided his subject into (1) a brief statement of the present condition of our knowledge on this topic; (2) the presentation of results of original analyses of food in its natural state, and as artificially altered by simple treatment, or as compounded and manufactured articles; (3) composition of fluids, &c., used in nutrition, and as actually made ready for immediate use; (4) the alteration of foods by keeping, or by the action of therapeutic agents or preservatives; (5) comparison of results of analyses and experiments, with deductions therefrom; (6) conclusions and practical recommendations. Finally, Professor Leeds made references to the experiments on the digestive ferments carried out by Sir William Roberts.

In the evening there was a buffet banquet at Pension Hall, at which over 4000 persons were present. The magnificent interior was gaily decorated with flags and banners, the noble Corinthian columns being draped with American flags and those of other nations. The electric light fountain was also shown, whilst excellent music was furnished by the Marine band. The crush at the tables of refreshments was rather severe at times. Dr. Burnette entertained the foreign members in the Ophthalmic Section at a dinner; whilst the American members of the Nervous Diseases Section showed a similar hospitality to their foreign *confrères*.

On Friday, at the fifth general session, an address was delivered by Dr. F. Blandford of England on the Treatment of Insanity in Private Houses and in Asylums. The paper gave various typical cases of mania or dementia met with in practice, suggested modes of treatment, and described many cases of mania that could be treated successfully at home if the family were willing to defray the cost entailed. The author believed that nine cases out of ten should be removed to a more suitable place than an asylum. As regards treatment, to harness a patient to a bedstead by his wrists or ankles was not treatment at all. Unfortunately, even in this day, such practices were occasionally adopted. He spoke of the reluctance felt by relatives of persons needing treatment to sending them to an asylum. Non-asylum treatment of persons suffering from depression or melancholia had generally been tried before the services of a specialist had been called in. But asylum treatment was necessary in most cases of suicidal patients, though, as shown in the reports of the English commissioners, confinement in an asylum would not always prevent suicide. Melancholia was the most tedious of all curable forms of insanity. Weeks and months were often required to effect improvemen tin the condition of such unfortunates. Here the question o fexpense came in. In the case of poor patients, to properly care for them at home involved great expense to keep them free from old surroundings, which were likely to aggravate the malady. Exaggerated egoism was a noticeable feature in such cases. At home, where the patient was the centre of attention, this was encouraged. In an asylum, on the other hand, where the patient became one of many, where he sat at table with some twenty others, no one seemed to care whether he refused food or not. For many, therefore, asylum treatment was the best, as it involved what he would call judicious neglect. Speaking on the question as to how far it was possible to treat cases outside an asylum without recourse to lunacy laws, he thought physicians ought to have the opportunity of treating such cases outside an asylum until it was deemed by them necessary to seek asylum treatment, since recovery might take place in some cases without recourse to an asylum.

Many of the Sections were but thinly attended. In that of *Medicine*, a paper on Atypical Typhoid was read by Professor Dabney of Virginia. He divided his subject into the following sections:—(1) Typhoid fever is atypical in respect of temperature; (2) typhoid fever is atypical in respect of eruption; (3) typhoid fever is atypical in respect of intestinal symptoms; (4) the causes of atypical forms of typhoid fever, which were *(a)* climate, *(b)* season, *(c)* complications, *(d)* individual peculiarities, *(e)* prevalence of other diseases. He then described the morbid anatomy of the disease, and concluded with observations on the diagnosis, prognosis, and treatment in atypical forms of typhoid fever.

A paper, entitled Considerations on the Pathogenesis of Diseases in Women was read by Dr. William B. Neftel of Chicago, in which he gave a description of a series of experiments on animals, with the object of investigating the effects of pulmonary compression in favouring the development of tuberculosis. He found the morbid condition produced by experiments to consist in arterial anæmia and venous stasis. The same condition occurred in women from tight-lacing, causing a predisposition for settlement and proliferation of the bacillus tuberculosus. The author alluded to certain pathological considerations which support the hypothesis. The International Medical Congress was requested to appoint a committee to investigate the whole question of dress for women.

On the subject of Diphtheria in Canada, introduced by Sir James Grant, the speaker stated that diphtheria was prevalent after a mild winter with little snow.

An important report was made by the committee appointed to examine Koroski's paper referring to statistics published by Dr. Keller, physician to the Austrian railways, in which he attempted to prove that vaccinated persons die in greater proportion than unvaccinated. Koroski undertook the laborious task of examining and checking Keller's figures and their sources, and as a result the committee now reported that Keller's statistics were utterly false and untrustworthy.

In the *Military and Naval* Section many interesting and able papers were read on Thursday. The proceedings, moreover, were enlivened by a pleasing incident—namely, the presentation of an elegant vase of onyx, framed in gold, to Dr. H. Smith of Philadelphia, the president of the Section. Inspector-General Lloyd of London took the chair, and Deputy Surgeon-General Marston and others spoke in complimentary terms of the general hospitality shown by their American brethren, and by Dr. Smith in particular. Dr. Marston said, speaking for the foreign guests, they would be profoundly ungrateful if they did not highly value all that had been done for them in America. He could wish nothing better or more pleasurable than to introduce Dr. Smith to his friends and their families in England as a specimen of a true American gentleman. Dr. Smith in reply, said he must not forget to observe that the members of the Executive Committee were as worthy of praise as himself. If his efforts had not been so warmly seconded in London and on the Continent the success of the Congress would not have been so conspicuous. He warmly acknowledged the action taken by British physicians to neutralise malicious misrepresentations by those who were willing to cast discredit on his country and his profession in order to gratify personal pique. He could not better express his regret at their course, of which he spoke more in sorrow than in anger, than by applying to them the words of the Wizard of the North:—

> "Breathes there a man, with soul so dead,
> Who never to himself has said:
> This is my own, my native land."

At the general sessions the Secretary-General of the Congress, Dr. Hamilton, reported that the Committee of Representatives of all the European nations present had unanimously selected Berlin as the place for next meeting, in 1890.

In the evening the foreign members and their ladies were entertained at a reception from 4 to 7 o'clock at Grasslands, the luxurious seat of Mr. Secretary Whitney.

On Saturday, the concluding day of the general session, votes of thanks were given to the President, General Secretary, &c., by representatives of the various European countries, who spoke in the highest terms of the manner in which they had been received. Dr. Grailly Hewitt and Mr. Edmund Owen of London spoke for England. The meeting concluded with a farewell address from the President, who in a few eloquent and touching words remarked that, if alive, he would attend the Berlin Congress. In the morning the members went to Mount Vernon, Washington's burial-place, and nearly 400 left the same night for Niagara. The total number of members was 2760. A large photograph was taken of members in a group on the steps of the Treasury House. The meeting on the whole was successful, in spite of many eminent men holding aloof. The papers were numerous, but, with few exceptions, of not very striking merit. Hospitality was not quite so abundant and profuse as at London and Copenhagen, many wealthy citizens being away from Washington for the season. The officials, from the Secretary-General downwards, have done all in their power to make the Congress a success and to afford a hearty welcome to foreigners, but the working details of organisation would have borne improvement, very little pecuniary help having been given by the Government.

The ninth International Medical Congress has now dissolved, having met on Saturday morning simply to adjourn. The meeting was fixed half an hour earlier than usual, so that foreign members might catch the train to take them to Mount Vernon. Secretary-General Hamilton was busy at the table ten minutes before President Davis requested the attention of the meeting. The Secretary-General then presented the resolutions adopted by the Sections, which he said would be printed in the Transactions. Amongst these resolutions is one by the Section of Climatology proposing the establishment of national bureaus of vital statistics, one by the Section of Military Surgery relative to the prohibition of explosive projectiles in warfare, and one by the Section of Hygiene on teaching hygiene in public schools.

Dr. Grailly Hewitt (London) said: "I come before you as one of the foreign members of Congress who have been requested to express in a few words the appreciation felt by the foreign members of Congress of the efforts made by the executive in furtherance of the objects of the meeting; we beg to convey our thanks for the attentions bestowed on us, and our appreciation of the success which has attended their efforts. I desire to express our sense of the hospitality, kindness, and attention, both public and private, received at this great meeting, attentions which will contribute to make our visit to Washington a source of congratulation and happy memory in the future. I beg to submit the following on the part of the foreign members of Congress:—'We desire to convey to the President of the United States our best thanks for his presence at the ceremony of the inauguration of this Congress, and we desire to express to the Executive Committee of the Congress, particularly to Dr. Henry H. Smith, Dr. John B. Hamilton, Dr. A. Y. P. Garnett, Dr. Tonen, and Dr. Arnold, our high appreciation of the efforts made for the efficient organisation, action, and working of the Congress, which have rendered it so great a success; and we convey our warmest thanks to the citizens of Washington for the kind hospitalities, public and private, we have received during our pleasant visit to this beautiful city.'"

Dr. Martin (Berlin) expressed in German his thanks for the kindness he and other members of Congress had received, and his gratification at the success of the Congress. He had come with some doubts, but these had all been removed, and the great success of the gathering would secure it a high rank among the medical Congresses which had been held. It was the custom to engrave the names of the victors at the Olympic games on plates of gold; they could not so record the names of their entertainers, they could only mark the expression of their sentiments by a vote of thanks.

Dr. Landolt (Paris), addressing the Congress in French, said: "I have been commissioned to express to the President of the United States our sentiments of profound gratitude; although unable to find words suitable to the occasion, I accepted the honour, and, since gratitude springs from the heart, there is no need of eloquence to make it understood. Mr. President and gentlemen, we have already assisted at a series of International Congresses, and have been well received everywhere. The countries of Europe have rivalled each other in zeal to make our stay with them in their beautiful cities pleasant, but not often has it been our lot to see the Chief of the State mingle in person among us, and take part in our labours. The President of this great Republic came among us to speak a welcome with sympathetic voice; he invited us to his own home, and gave each a hearty grasp of the hand, significant of the most cordial hospitality. The sanction given by President Cleveland to the Congress has imparted the greatest charm to our stay in this capital, and, returning to our hearths, we shall preserve the most grateful and respectful remembrance of the President of this great Republic, and say to the whole world that the United States, being so favoured, possesses, above everything, a chief who directs them surely on the way to progress and prosperity."

Mr. Edmund Owen (London), in a speech which was vociferously applauded, his references to Mrs. Cleveland especially meeting with hearty favour, said he desired to second Dr. Hewitt's resolution. In science there were no politics, and he was extremely happy to have visited the United States during the presidency of Mr. Cleveland. He asked an American friend, a very intelligent man, if he voted for Mr. Cleveland. His friend said "No." He asked him if he was satisfied now, and received the laconic answer, "Guess I am." If that question were put to this meeting—Are we satisfied? I say, "I guess we are." A man like the President might have found something else to occupy his attention—say, in the White Mountains—this time of year; he might have been driven away by the doctors, but instead he remained to welcome them. "When the history of this grand country comes to be written, we trust President Cleveland will have a niche in the temple of fame side by side with those great men, Lincoln and Garfield. When you are in our country, we love to hear you say, 'We admire your Queen.' We say in all truth, we admire, we love your Queen of beauty and grace. In seconding this vote of thanks, I simply express the prayer that Mr. President Cleveland and Mrs. Cleveland may long continue in strength and health to preside over a happy, prosperous, and united country." Dr. Hamilton, Secretary-General, then presented Dr. Hunt of this city, on behalf of the Section of Oral and Dental Surgery, with a handsome gold-headed cane, as an expression of appreciation of his courtesy.

Dr. Hamilton replied to the speeches of the foreign delegates, and said: "Mr. President, I could not fail to be deeply sensible of the great kindness bestowed upon me, and the many words of encouragement received during the present meeting and the past six months. I am profoundly grateful for the expressions now placed upon record; but, sir, the success of the Congress is due to no one man; all on this side worked with the spirit and enthusiasm of Americans, whose hearts were in their work; but all efforts would have been in vain, and the strongest would have failed, had it not been for the noble army of scientific men abroad who, deaf to all misrepresentations of disappointed factionists, came from the universities of old England, the vine-clad hills of France, the seats of learning of Germany, the cities of the Alps, from sunny Italy, the lowlands of Holland, the fastnesses of the Danube, from far-off but ever-near Russia, from the golden shores of China, from Japan, Cairo, and the sands of Egypt, and the everlasting hills of Palestine. I say to these representatives here assembled that to them we owe a debt of gratitude which time cannot efface; as these, our dear colleagues, braved the dangers of the deep, and sustained in some cases the shock of calumny in order to be with us, so let us here say that when again we meet at Berlin in 1890 let it be to renew friendships formed here, and once more grasp the hands of those who have been true to us now."

Dr. Davis (President) after referring to his professional life of more than half a century, said one of the objects of his life had been to promote harmony among all branches of medicine; to-day the happiest feeling of his life was that he could now stand here in the capital of the United States, and not only see the profession he loved united and working harmoniously, but stand among representatives of almost every country of the globe. He thanked those who had come across the water to attend the Congress, not only in his own name, but in the name of the profession of America, in whose name the Congress had been invited to sit here. There were members of the profession from every State in this great union assembled to greet the foreign members, of whom there was a larger gathering

in this Congress than in any one preceding. He thanked the members of Congress for the courtesy shown in sustaining him in the discharge of his duties. "Life with me," he said, "will not be long, but if it is spared with sufficient health I shall feel great satisfaction in meeting my friend Dr. Martin and all his comrades in Berlin in 1890."

The Niagara excursion proved an unqualified success. Two special trains, with sleeping cars, left Washington on Saturday evening. They stopped *en route* at Watkins' Glen, a wild, rocky mountain gorge, which was rendered additionally interesting by numerous torrents and cascades. The scene altogether was weird and beautiful in the extreme. Niagara was reached on Sunday night. The visit to the rapids was made on Monday, when all the several spots from which a view of the falls from both sides could be obtained were visited. To the foreign members hotel expenses, railway fares, drives, and everything were free. An impromptu meeting was got up at Niagara, Dr. Pavy in the chair. A resolution was proposed by Dr. Coghill (Ventnor), seconded by Surgeon-General Rayer (Russia), and supported by Surgeon Langridge and others, acknowledging the magnificient hospitality shown to the foreign visitors by their American entertainers. A vote of thanks was also passed to the organising committee with much applause.

It is understood that the next Congress, to be held at Berlin in 1890, will be presided over by Professor Virchow.

ERRATUM.—In our last issue, page 540, first column, the name of the author of the paper on Sunstroke was wrongly printed "Langridge," instead of Anderson.

## ANNUAL REPORT OF THE LOCAL GOVERNMENT BOARD.

ON January 1st, 1887, there was a total of 822,215 paupers in England and Wales, and, compared with the corresponding date in the previous year, this exhibited an increase of 2116 in-door and 7144 out-door paupers. The increase ranged from 3·8 per cent. in the north midland division to 0·6 in the south midland division, the largest numerical increase being that of 3575 in the metropolis. In referring to the causes of this increase, it is stated that it has to some extent been brought about by the increased number of sick in the Poor-law infirmaries, where improved treatment and care has led to an undoubted lengthening in the lives of the sick, and into which the poor, who have a great reluctance to the workhouse as such, have no objection to enter. As regards the expenditure on poor relief, it appears that in the last financial year there was, as compared with the previous one, an increase in 13 unions, amounting in all to £36,520, the largest being an increase of 6·9 per cent. in the York union; and a decrease in 31 unions, amounting in all to £231,890, the largest decrease being one of 6·6 per cent. in the metropolis. The cost per head on the mean number of paupers of all classes was £10 12*s.* 6¼*d.* for England and Wales and £22 5*s.* 2¼*d.* for the metropolis.

In the Local Government and Public Health Department of the Board returns have been issued showing that since the constitution of the Board in 1871 sanction has been given to the borrowing of £36,722,067, and this mainly for sanitary improvements. Of this sum, £31,249,949 has gone to urban districts, and £2,378,331 to rural districts. During the same period power has been given by means of local Acts for raising £43,759,711. The principle of repayment of a moiety of salaries for medical officers of health and inspectors of nuisances seems to be increasing, and at present such repayment is made as regards 1163 of the former and 1067 of the latter officers. In certain instances this repayment is withdrawn, and such was the case in a certain number of instances in which the Board refused to sanction proposed reductions in salaries; indeed, the report before us makes special reference to the inadequacy of the salaries frequently proposed by sanitary authorities, and it is pointed out that one of the objects of the grant is to secure the appointment of efficient officers, and the proper discharge of their duties. Such repayment is now also extended to increases of salaries granted to medical officers of health and inspectors of nuisances to whom duties under the Dairies, Cowsheds, and Milkshops Order, 1885, are delegated.

With reference to defaulting authorities, the case of Cheshunt is of somewhat long standing, and at present the issue of the mandamus which was obtained against that Board is still deferred, because the authority have acquired a loan of £15,000 for the compulsory purchase of land for their sewerage works. The other cases mainly bid fair to come to a satisfactory solution, although in some instances difficulties have to be contended with. Near Canterbury the city wells are apparently open to pollution by reason of certain cesspools just outside the city boundary. The rural sanitary authority appeared ready to remedy the mischief by draining into the city sewers, but the Town Council have refused the necessary permission. In the meantime, such risk as exists must remain.

A large number of port sanitary authorities which heretofore were only appointed temporarily have now been placed on a permanent footing, an arrangement which must necessarily promote our organisation for the improvement of the sanitary state of vessels and crews, and for preventing the importation of disease from abroad. This work of permanent port constitution is still in progress, and expenditure is going on around our coasts as to port officers, hospitals, &c.

Under the Sale of Food and Drugs Act, 1875, we find that during the past year one sample was analysed for every 1181 persons, and that, in London, St. Mary (Newington) stands alone in sending in an absolutely *nil* return. This local inaction has been marked ever since the commencement of the Acts, and a dairyman in the adjoining parish, and who was fined, somewhat naturally complained that he only watered his milk to the same extent as a neighbour and rival, who was allowed to adopt this form of competition because he happened to live on the other side of the way. There were also three counties and sixty-six boroughs in which no single sample was submitted for analysis during the year. Of samples analysed, the highest percentages of adulterations were — spirits 17·8, butter 17·3, coffee 15·1, pepper and milk each 13·0, mustard 12·7, and drugs 10·8; the total proportion of adulterations being 11·9 per cent. of articles analysed, as opposed to 13·2 last year—indeed, it is the smallest proportion as yet reached. As regards milk, the report expresses a fear that some of the apparent gain is attributable to the lowering of the analyst's standard, and not to an improvement in the milk; and it refers to the difficulty of deciding between a milk that has been fraudulently watered and a genuine sample from a badly fed cow; indeed, it is well known that many dairymen adopt the practice of watering rich milk down to a limit which will pass the test. The analyst for the city of London points to a real difficulty when he states that public analysts have come to the conclusion that as yet "none of the processes of analysis in general use ensure uniformity of results." With respect to butter, there is evidently a steady increase in the sale of so-called butterine, mostly manufactured in Holland. The worst feature of this sale is that the butterine is bought by butter manufacturers and mixed with butter, to the sole advantage of those guilty of the fraud. Butterine, or rather, to give it the legal name, "margarine," itself is usually a wholesome article of diet.

The vaccination returns show clearly where failure to comply with the law in this respect mainly lies. In the provinces a somewhat steady increase in default is going on, the births not finally accounted for in this respect being 5·3 per cent. in 1884; but the evil is principally located in the following unions, where the percentages are excessive: Keighley, 71·7 per cent.; Leicester, 47·9; Dewsbury, 37·6; Derby, 29·4; Henley, 19·2; Oldham, 17·2; Barrow-on-Soar, 15·2; and Eastbourne, 15·2. It will need a "day of reckoning" to convince these people that their children have a right to the possession of the same protection against small-pox as they themselves have. The calf-lymph station may fairly be regarded as meeting the case of such objectors as can assign a reasonable ground of objection; and we are glad to learn that during the year 5329 persons resorted to it. A large amount of animal lymph was also distributed from it. Reference is made in the report to a number of other subjects. These include a summary of the medical work, but as to this a separate report is annually issued by the medical officer to the Board.

THE Chelsea Board of Guardians, on the recommendation of a committee appointed to examine into the condition of the post-mortem room of the parish, have decided to pull down the present structure and erect a new one.

# THE LANCET.

*LONDON: SATURDAY, SEPTEMBER 17, 1887.*


THE history of the London scarlet fever epidemic has entered on a new phase since the extraordinary meeting of the managers of the Metropolitan Asylums Board on Saturday last. Scarlet fever is steadily increasing, and, so far as can be judged from former experience, both the extent of the epidemic and the mortality are likely to become aggravated during the next two months. London is, however, provided with a body having special powers, organisation, and resources for dealing with infectious diseases in such a way as to minimise their danger to the community, and yet at a critical moment in the course of an epidemic they meet, they talk over the prospects before London, and end by passing a resolution which, in so far as it is not altogether meaningless, is directly hurtful to the interests of the inhabitants of the metropolis. In five weeks the admissions from scarlet fever into the Asylums Board hospitals had increased from 91 to 195. The Asylums Board had available for that disease 1282 beds; 1045 of those beds were occupied early this week, and the fresh admissions are daily on the increase. Fortunately, there is a large new hospital at Winchmore-hill, which, if utilised pavilion by pavilion as the need arises, could be properly fitted for the sick in about a fortnight, by which date the 200 beds still available elsewhere may be expected to be occupied. In the face of this emergency, the managers, having first decided by a vote of hands to defer all consideration of the subject for the very period of a fortnight which gave them their only chance of doing their duty, ended by a formal vote of "the next business"; and then they wended their ways homeward, leaving London and scarlet fever prospects to take care of themselves.

We are quite prepared to admit that there are many matters which call for modification as regards the duties and responsibilities of the managers of the Metropolitan Asylums Board Hospitals, but to avail themselves of such an opportunity as the present one to discuss these subjects indicates, to say the least, a defective sense of public duty. One manager wants to limit the length of the period of detention in hospital, so as to return the patients back to the public precisely in the stage in which every tyro knows them to be obviously infectious and dangerous. Another utilises a scarlet-fever emergency to raise questions as to the reception of non-paupers, and as to the need for recovering expenses from those who can afford to pay. A third would diminish the amount of floor space per patient, and this, too, at the moment when it is proposed to take the convalescents away, and so to aggregate together, with diminished air space, those who, above all others, need ample breathing room. Such are the matters that came under discussion at Saturday's meeting, and they will not fail to have convinced the London public that, after all, there must be something radically wrong in the constitution of the Metropolitan Asylums Board itself.

We would for the moment limit ourselves to two points in which it is evident that the constitution of that body needs amending. In the first place, it is essentially a Poor-law body, and as such it is unfitted to deal with the important sanitary considerations which are referred to it. The Poor-law element is always raising its head at meetings where matters affecting the health of the metropolis are under discussion, and at which representatives of the sanitary authorities are markedly absent. This point was especially alluded to in the Report of the Royal Commission on Small-pox and Fever Hospitals, and a reorganisation of the Board was declared to be necessary. But year after year passes, and nothing is done to remedy the anomaly. In the second place, the Board have no medical adviser. Had the matters dealt with at last Saturday's meeting come before the town council or local board of any ordinary English town, the recognised adviser in matters affecting the health of the town would have been present; he would distinctly have informed his authority of the extent of the danger and of the measures necessary in order to meet it; and in the face of his skilled advice it would hardly have been possible for the most retrograde body to have dealt, as the managers of the Metropolitan Asylums Board were compelled by a majority of their number to deal, with an emergency such as London now has to meet, and this unaided by the very body whose duty it is to cope with the difficulty.

Possibly the minority found themselves hampered because a number of their colleagues who are not tied by Poor-law notions happen to be away from the metropolis at this time of the year; but it is to be hoped that an effort will be made to call back such members as can be trusted to place the welfare of the metropolis before all other minor considerations, and that a second meeting will be summoned. In the meantime, we can only hope that the increased readiness on the part of the population to resort to hospitals tends to give to the rapid increase in the number of admissions a more serious meaning than the actual circumstances would otherwise justify.

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As the area of knowledge extends and its depth increases, facts, as we know them, wear different aspects and things seem to change; and as the transformation proceeds the old names and formulæ become obsolete or acquire new significances. Practically to-day systems and schools, so called, of medicine have died out, and all that relates to the method or principle of the art of healing may be grouped under two heads—namely, Rational Medicine and Empiricism. It is not worth while to recall the historic or traditional meaning of these terms. The sense in which we employ them is the common as distinguished from the technical or scholastic. By rational medicine we mean that which consists in the reasonable and purposive use of agents to do certain specific work which is upon ascertained grounds held to be necessary or conducive to the remedy of disease and the recovery of health. There is no mystery in this method, nor does it include or imply any purpose or procedure which is not in accordance with the laws and processes common to all science and art. The medical scientist does not deal in any special art or mystery. He proceeds on common-sense principles, and by logical methods of inference lays down his plans

and carries them out by plain and obvious means and agencies. He is a scientist of the same school and type as other scientists, and he works in medicine precisely as they work in other departments—for example, geology, zoology, or physics. In proportion as he is a sound practitioner of medicine is he a rational scientist; and, as a matter of fact, if a scientist from any other department engaged in the specialty of medicine he would need only to deal with the new sets of facts in the old methods. This is the test of all true science in art, that the method of work is the same, however widely the province of labour may differ; and it follows that the labourers in the divers fields can understand each other, help one another, and mutually criticise and correct each other's endeavours. Rational medicine is sound in proportion as it is *orthodox*, not in the sense of being conformable to any special canon of truth, but in accord with the universal principles of science. The attempt to set up any special hypothesis or to lay down any particular law is in itself an act of revolt against science, and stands self-condemned as irrational. Thus if *similia similibus curantur* were not a fallacy, it would hold good throughout the whole domain of science—not in medicine only, but in every department. Its character as a proposition in which an essential part of the theorem is suppressed is a self-evident proof of its heterodoxy. No one ever alleged that the similarity of the *similia* extended to their quantitative as well as to their qualitative properties; and as the formula did not express this limitation, it omitted to state an essential part of the truth, and so became a false statement of the worst possible kind—in short, a fallacy; the truth suppressed being that all agents act differently in different magnitudes or doses, and that therefore *similia* in one dose must be dissimilar in other doses, and the doses in which they were, or were alleged to be, administered were not the doses in which they were similars. This, apart from all the superadded fallacies of infinitesimalism and the like, which have emphasised the grotesque absurdity of "Homœopathy," would alone place that so-called *system* of therapy outside the pale of rational medicine, and the like is true of all other systems. Whatever and wherever a claim is set up for any method or scheme of principles as peculiar to the art of healing, the fundamental law of rational medicine, as a branch of science, is violated, and either the pretence is idle, or the theory on which it is based is unsound.

The fact that rational medicine is an integral part of science as a whole, and conformable to its universal laws and principles, formulates many minor facts interesting alike to the profession, the practitioner, the student, and the public. For example, it follows that all the old exclusiveness is at an end, and that as the knowledge of nature becomes more widespread among the people, the profession must needs stand on a simple footing of specialty in science—that is, greater acquaintance, and consequent expertness, in dealing with a particular class of facts, and nothing more. As we said just now, the medical scientist differs only from the scientist in geology in that he has made the facts grouped for convenience under the heading "Medicine" the subject of his special study as a scientist, instead of directing his attention to the group of facts designated "Geology." He is neither more nor less a scientist than his compeer in other departments. It follows, again, that the practitioner of medicine must practise in conformity with methods and upon principles common to all practitioners in the several branches of science; and therefore his work must be easily understood by them and amenable to the scrutiny of competent critics in general science, if only they will take the trouble to make themselves acquainted with the special facts of medicine. Again, the student must needs be grounded in the principles of general science and acquainted with its methods before he takes up the specialty of medicine. There can be no such thing as an exclusively medical education; and while the student of medicine must be first a student of science, no student of science can find the door of medicine barred against him, or find that the key of knowledge does not open this department as easily as any other. Further—and this may, in some senses, seem to be the most pregnant of the consequences dependent from the fact that rational medicine is an integral part of science—the confidence of the public in the profession and its practitioners is likely to be ultimately measured by the status in science which they attain, rather than by the successes they achieve in the struggle against disease. It will before long come to be perceived, and even now it is beginning to be seen, that the prestige of the profession as a whole and the reputation of its members do not so much rest on what they do as upon what they *are*. The System and the Charlatan may catalogue their successes and parade them as the grounds of a claim to public respect and confidence, but as medicine assumes its true place as a branch of science and its practitioners are regarded as men of science, this appeal must not only appear incongruous, but by the force of circumstances prove to be no longer of any avail. This is the hope we have of the regenerating power of truth. As science sways in medicine, it will become less and less a craft, and at length develop into a purely scientific art, stripped of all unworthy disguises and simply rational. We see the same change coming over all branches of applied knowledge; and true progress must sooner or later—the sooner the better for ourselves and the community at large—bring rational medicine into the closest and simplest relation with other branches of science until knowledge becomes one.

Empiricism is the antagonism of all this. In its modern sense, at least, the term empiricism may be taken to mean wilfulness, in ignorance or defiance of law. The essence of empiricism is an assumption of exclusive skill in the individual. It is not even the idea of exclusiveness in knowledge of the sort which may for a time exist, when, of several competing practitioners in any art, one may attain to a deeper insight of principles, around which he casts a mystery. The empiricist in medicine affirms his power and right to employ remedies discovered by some genius of his own. He does not hold himself bound to account for their modes of action even to himself, still less to others. It is enough for him that they serve his purpose, or that he thinks they will do so. He tries experiments, and if they succeed he repeats them without any feeling of responsibility to determine by what law his procedure is governed. He is of the same mind as the counsel who cares nothing for the soundness of his legal argument if only he can win his client's suit. It is as though

the mariner should care nothing for astronomy, or magnetism, or the laws of winds, and currents, and storms, if only he reach safely the port for which he is steering. Of course there is no science in the method of the practitioner of this class, and, except in so far as he is blindly using the brains of better men, there is nothing of science in the system on which he works. Probably all empiricism is really at bottom a fraud, and those who pretend to exercise it are, knowingly or unconsciously it may be, acting upon suggestions emanating from authorities who are not acknowledged. In any case, as a method or system, empiricism, as we see it around us to-day, is one of the most contemptible and mischievous of the uses to which men—sane and honest men—can put the faculties of will and sense. To do an act without knowing or caring why it is done, except that a certain result will probably be attained, is to fall back on that elementary process of reasoning by which the lower animals arrive at the conclusion that they must eat to live, or seek cover for shelter in a storm. *Experientia docet* is a maxim at the very initial point of mind-work. The outcome of such work can at best be only the heaping together of facts in confusion. Science is in no way advanced by such labour, though it may chance that the accumulated results of experience will sometimes supply the scientist with materials he would otherwise need to go further afield to obtain. Even if it be granted that the empiricist does now and then seem to strike a lode of valuable ore, as by a divining rod, the fact that his success is not achieved by the working out of any *rational* process of applying knowledge not only deprives him of all claim to the character of a scientist, but obviously affords no ground of expectation that he will be able to repeat his enterprise. The empiricist is isolated. He has nothing whereby he can link himself with others. He does not himself know how or why he is successful, and his success affords no ground of confidence. On the basis of empiricism nothing can be built. The sum of knowledge is not increased by it, and the pursuit of science is rather retarded than advanced, for men are led to trust to chance for the gifts of genius, instead of setting honestly and intelligently to work to win the knowledge of facts according to natural laws.

It is of the highest moment that those who are commencing the study of medicine should recognise the fact that only rational medicine is a branch of science; and it would be well if those who practise medicine could be induced to make this fact a cardinal point of their philosophy, with all the intellectual, actual, and ethical considerations and consequences it implies.

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WE published last week a communication from a correspondent on the subject of the medicine stamp tax, from which it appears that the Revenue authorities have recently been applying the Act under which it is levied with peculiar stringency, in all probability urged by the old patent medicine proprietors. The time is therefore opportune for a renewal of the protest which we have often before made against this antiquated, unjust, and even pernicious form of taxation.

There would be ample ground for invoking legislative interference if only to readjust this tax on the ground of its unequal incidence. For the upshot of various statutes and their judicial interpretation has been to reduce the law at the present time to a state of utter confusion. The original Act of GEORGE III., by which medicines were rendered liable to duty, was couched in the most comprehensive terms. These were made subject to various exceptions by subsequent Acts of Parliament, with the object and general effect of excluding from the category confectionery and beverages. One of the repealing Acts, however, was so worded that when it came to be construed by the Court of Appeal in the well-known case of the ATTORNEY-GENERAL *v.* LAMPLOUGH, it was held that the administration of a medicine through the medium of artificial mineral water entitled it to exemption from the duty. The Revenue Commissioners, again, have adopted of their own motion the view that preparations which are administered by burning and inhalation of the fumes are not to be regarded as "used or applied externally or internally." Such preparations are accordingly treated to exemption also, and in the result it is matter of the merest chance whether a particular medicament will be held to be liable to duty or not. We quote from our last week's correspondent (p. 545):—

"Chemists are prosecuted for selling simple pharmaceutical medicines which have not the slightest resemblance to patent medicines—e.g.: simple quinine, made up into pills by means of sugar, gum arabic, glycerine, or other excipient; quinine pure and simple, enclosed in a capsule of gelatine or covered with sugar; rhubarb, made into a fluid extract or tincture by extracting its properties with alcohols; menthol, dissolved in spirit to form a solution; powdered rhubarb and soda triturated together are under certain conditions held liable. The Board of Inland Revenue rule that each of the before-mentioned, or the mixture or combination of any two or more drugs, or the addition to a drug of any other substance (although it be but a vehicle or adjuvant), are thereby removed from the category of 'medicinal drugs—entire' (or crude drugs), and become nostrums, liable to the stamp tax, in each and every case where the medical properties are stated upon the label, or set forth in advertisements to the medical profession and chemists in medical and pharmaceutical journals. All compounds and mixtures of the Pharmacopœia come under this ban according to this arbitrary ruling, and the chemist vending is liable to a heavy fine if he states the medical properties upon the label, or in any advertisements to the medical profession or trade."

In the LAMPLOUGH case two courts gave judgment for the Crown, and only after a most elaborate legal argument did the Court of Appeal pronounce in favour of the defendant. That the tax collector should be turned loose upon the public with a weapon like this in his hands is not only a grievance crying loudly for redress; it is a disgrace to the statesmanship of our Legislature, and one which, without distinction of party, it concerns all politicians who lay any claim to enlightenment promptly to remove.

But this is the least of all the objections to this impost. On fiscal grounds it is difficult to conceive of any objection to any tax which cannot be urged against this one. Should taxes be apportioned to the means of the taxpayer? The bulk of this tax is collected from the poor. Should the payment of a tax be arranged with a view to the convenience of the taxpayer? This one is levied in times of sickness chiefly. It is collected, therefore, at a time when the payment of anything in the nature of a tax constitutes a peculiar hardship, when the ordinary expenses are increased by the demands made upon a poor man's purse for special food and the like, and when perhaps the ordinary income is

reduced or even suspended altogether in consequence of the patient's incapacity for work. Thus in the time and circumstances of his greatest need this additional burden is cast upon him, and his convenience is studied only for the purpose of its being outraged. And, finally, should the collection of a tax be economically done so that as little as possible may be taken from the pockets of the community beyond what goes into the exchequer? This is collected in the costliest way imaginable. The manufacturer or importer advances it in the first instance, and treats the money so laid out as part of his capital expenditure, on which he will, of course, expect to obtain his ordinary trade profit. This he secures by charging the wholesale dealer with the duty *plus* his ordinary profit, in addition to the cost-of-production price. Of course, the wholesale dealer recovers his outlay in a similar manner, and with a corresponding further addition for trade profit, from the retailer, and the retailer in his turn reimburses himself at the expense of the consumer. The exchequer receives only the amount originally paid by the manufacturer *less* the ordinary expenses of collection; the taxpayer is mulcted in the whole accumulated profits of the various traders through whose hands his medicine has passed, in addition to this ordinary charge. Some years ago we showed by an analysis of figures that in this way a *sixpenny stamp* involves, in a very ordinary case, an addition of about *two shillings* to the retail price,[1] so that for the privilege of contributing something less than sixpence to the national exchequer the unfortunate taxpayer has to pay eighteenpence to the financiers whom the Government scheme interposes between himself and Somerset House. Surely there never was a tax more radically or incorrigibly bad. If any considerable proportion of our Imperial revenue had to be levied on such a method as this, the QUEEN'S Government could not be carried on for a single week. The only explanation that can be offered of the survival to our own times of an impost so oppressive, so unremunerative, and so unjust is that politicians have consented to regard it as a matter insignificantly small and to treat it with contempt. Small it may be from the point of view of the Chancellor of the Exchequer, for of the ninety and odd millions which he annually demands, it yields him very much less than one five-hundreth part. But from the payer's point of view it is anything but insignificant; for him it lays wait until his "rainy day" comes round, and falls with its tripled or quadrupled weight precisely at that time when the smallest addition to his outgoings is felt to be a serious burden.

But the worst feature of this tax has yet to be mentioned. Its uncertainty, its oppressiveness, its wastefulness, are much; and they are inseparable faults. But if it were desired to add to all these one crowning mischief, no better—i.e., no more mischievous—plan could have been devised than that of collecting the duty by means of a stamp. The stamp is nothing but an official receipt for duty paid; But again and again has it been represented by unscrupulous vendors as being some sort of Government voucher of the excellence of the nostrum with which it is sold. Mistakes of this sort are constantly being made by uneducated people. Within the present session there have been brought to the notice of the Government in the House of Commons repeated instances of the same kind of thing in the most diverse fields. And on all these occasions the mouthpiece of the Government has expressed a fitting sense of the duty which lay upon the representatives of the Crown to disavow these mischievous fictions, and take steps so far as possible to remove the appearance of official authority in their support. But never has the prestige of Government been more impudently or more profitably claimed than by some vendors of "patent" medicines that might be named. The class of remedies somewhat inaccurately termed in common parlance "patent" comprises, without a doubt, some of undeniable excellence; but it contains also many that are fraudulent and some that are deleterious. But for each and all of these an unscrupulous vendor may claim what virtues he pleases, and cite in proof of his claim the authentic Government stamp. True, his argument does not prove his conclusion, but it convinces a certain number of possible customers, and that is the material point in his view. That also is, we admit, *the* material point in our view. It is startling, it is scandalous, that the Government stands by, and for a paltry bribe of £150,000 a year becomes a party—a conniving party—to such wholesale and shameless fraud. If on fiscal grounds we urge the repeal of this obnoxious tax, on moral grounds we demand it. The present session is now over, but we shall make it our business to renew the agitation from time to time until the good cause prevails.

[1] See THE LANCET of July 5th, 1884, p. 22.

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THE questions with which we propose to deal in discussing some points in connexion with hysteria have to do with that class of phenomena which some sceptical minds, especially in England, are apt to reject from careful consideration, or, if they accord any consideration to them, adopt a different explanation from that which is current amongst the French. We are tempted to recur to the subject because of the recent appearance of several new publications dealing with the subject matter, and especially we may mention the book of M. PAUL BERBEZ[1] and a paper by M. RENDU in the *Archives de Neurologie* (No. 41, vol. xiv.). In order to obtain a clear notion of the views which are pretty generally entertained on this subject in France, and which, we may add, are not without adherents in England, America, and Germany, it may be well to state a theoretical explanation of the alleged phenomena.

Of all the parts of the nervous system none is more impressionable than the cerebral cortex to changes of various kinds happening at the peripheral apparatus of afferent nerves, whether these be the special organs of sense or other less definite terminal organs. We do not wish to deny that this statement has not something of the nature of an assumption, but it is, we think, one which will bear inspection by the light of ascertained facts. Hysteria, if it has any special place and habitation, is most likely a derangement of certain areas of the cerebral cortex, but this is perhaps an even bolder assumption than the preceding. A further step towards understanding the present position of the subject may be taken by simply stating what are believed to be the ascertained facts of hystero-

[1] Paris: A. Delahaye et Lecrosnier, Rue des Carmes.

traumatism—the term traumatism being employed in the widest sense to signify any shock, wound, or concussion.

Certain predisposed organisms or individuals do suffer, or aver that they suffer, after the receipt of some traumatism from rather characteristic phenomena, which may take the shape of an unpleasant idea, a disagreeable sensation, or an emotion of the gay or sad kind, and not necessarily of the intense sort. Some of these impressionable individuals experience a fixed pain in one joint, or acquire a rigidity of a limb, or even a limp form of paralysis. Since such affections sometimes disappear entirely, even after having lasted for many years, we cannot reasonably regard their causes as of an organic nature; and furthermore it is highly improbable, considering the slight variations exhibited in the morbid phenomena, that a contracted or a dilated state of the bloodvessels of the faulty nerve centres can be the essential cause of the derangement. The belief that the genuine nervous matter has undergone some slight but effective change seems to us to be far more in accordance with the facts of nervous physiology, and we can think of no better analogy than the one which Dr. RUSSELL REYNOLDS employed long ago, and which conceives that nervous matter may be "magnetised and demagnetised," in the same way as iron may be, without altering in any considerable degree its essential constitution. The real cause, then, of hysterical paralyses, pains, and the like is the special state of the brain; and the occasional cause—i.e., the traumatism—can have but a slight action. We assume, therefore, that some individuals are morbidly mobile in the nerve centres—or, to keep up our analogy, we may say more easily "demagnetised" in certain parts of their cerebral centres.

It has been thought by some observers that the change in the cerebral centres is really and chiefly the outcome of the traumatism, which they conceive brings about a definite organic change of slight intensity—as, for example, the least possible ecchymosis. In cases of nervous disease ensuing on severe traumatism, as happens in railway accidents, such a hypothesis offers a perfectly possible solution of the symptoms; but at the same time, in addition to mere physical shock, hæmorrhages, and inflammations, there almost always exists a certain degree of psychical or hysterical disturbance, which intensifies and adds to the symptoms chiefly induced by the actual lesions, and this psychical element must vary with the individual, being of greater force in those who belong, or come nearest, to the group of hysterical, not to say neurotic, people.

For practical purposes the symptomatology and the diagnosis of these affections are by far the most important considerations. The symptoms are as varied in seat as they are in character, and the combination of them is also remarkable for its variability. The paralyses may be of the so-called *limp* kind (*les paralysies flasques*), or some stiffness may attend the paralysis (*les paralysies avec contracture*). The paralysis may be limited to one limb, or even to parts of a limb, or it may take the form of a hemiplegia or paraplegia. The diagnosis may be rendered more difficult by the absence of any history of nervous attacks or hysterical phenomena, and there may be even no affection of the special senses. Of this combination M. RENDU gives an interesting illustration in the case of a girl aged seventeen, who had an incomplete paralysis of the right hand associated with preservation of the electric contractility, but with loss of the muscular sense: "the absolute anæsthesia involved every form of articular sensation."

Perhaps the least well recognised forms of hystero-traumatism are those cases in which monoplegiæ constitute the principal nervous element. The following is an outline of such a case from F:RBEZ's book: A cavalier, aged twenty-four, without any family history of nervous disease or any personal history of nervous affections, sustained a fall from his horse on May 8th, 1884, and broke the radius of his right forearm. The splint was removed at the end of fifty days, when there was found to be, not unnaturally, some difficulty in moving the limb; this paralysis, instead of mending, increased to absolute loss of power of the whole of the right upper limb, which underwent no improvement for the better during the next four months. After this period a careful examination demonstrated the complete paralysis of motion and of sensation to pain, touch, and temperature, which anæsthesia extended to the deep parts of the limb, so that violent torsion of the limb was actually painless, and electrical currents of great intensity were borne without apprehension and without pain. The muscular sense was completely lost, but the muscular contractility was normal in the paralysed limb. The anæsthesia extended as far as the shoulder, and was bounded by a zone of diminished sensibility, so that the line of demarcation was difficult to establish. There was some contraction of the visual field of the right eye and abolition of the pharyngeal reflexes (anæsthesia), with preservation of the knee jerks and cremasteric reflexes.

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THIS is the season *par excellence* of continental travel. A large number of our countrymen, including a good contingent of the members of the medical profession, are now engaged in clambering among Alpine snowfields and glaciers, or floating upon the fair lakes of Switzerland and Italy, or inspecting the art treasures of Munich, Florence, and Venice. The practice is one to be on the whole commended, although a word of passing regret may be expressed that so many go far afield for their pleasure and leave unexplored the scenes of great beauty and high historic interest in which our own country so remarkably abounds. But while continental travel, duly regulated and pursued with intelligent interest and with the pre-existing educational fitness necessary for its appreciation, may be in a high degree pleasurable and instructive, we are strongly of opinion that the average tour is often an unmixed failure, whether regarded from the point of view of health or intellectual profit. To many it is a time of worry and weariness, and to some a source of really grave impairment of physical strength. We propose to glance for a moment at some of its special dangers, which a little wisdom and experience should enable the traveller to guard against.

There is, first, the danger which so few escape, of over-excitement and undue physical effort. We attempt too much in our tours, and forget that the brain-worker, whether lawyer, physician, or merchant, is commonly out of condition and unfit to encounter severe fatigue. The man, who, after twelve months of continuous mental labour and little muscular exercise, posts from London to Chamouni or

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Zermatt, and incontinently essays the ascent of Mont Blanc or the Matterhorn, is really guilty of an unpardonable forgetfulness of the conditions and limitations of healthful recreation. If he escape with mere fatigue and the sense of having misused his holiday, he will have reason to rejoice that he has not also overstrained his heart and done irreparable mischief. We have taken an extreme case, but in minor degrees this error is in daily and hourly practice during the holiday season. Mountain-climbing, while perhaps the most delightful and exhilarating of pastimes, has of course other and more special dangers. The unlooked-for fog or snow-storm, the treacherous path through the moraine, the sudden rush of the avalanche, have cut short many a happy and useful life. The list of fatal Alpine accidents has been this year unusually heavy, and their plain and pregnant lesson is the utter folly of even hardy climbers venturing unknown ascents without the assistance of trained guides. Mountain-climbing is, in fact, almost as much a special *métier* as the management of a ship; and practical training can be as little dispensed with in the one case as in the other. With proper help, this amusement seems to be as safe as any other form of vigorous out-door sport, in all kinds of which more or less risk is necessarily present.

Pedestrianism, whether mountain-climbing, or the less fatiguing walks among the valleys or in the open country, requires due regulation if mischief is not to result. The pedestrian should be lightly clad, with some woollen material next his skin. He should not burden himself with much luggage, and he should pay special heed to his foot-gear. If a long journey be contemplated, an early start should be made, and ample time allowed *en route* for rest and refreshment. Snow-water, honey, and the fruit so freely offered by itinerant vendors are best avoided by the pedestrian in Switzerland, and universal experience proves that alcohol in any form is injurious during active effort. Coffee or tea may be drunk with advantage, and solid chocolate is one of the best sustainers, if regular food be not obtainable.

In whatever manner the traveller elects to spend the time of his tour, whether in mountaineering, or the more sedate pleasures preferred by the majority of tourists, the due regulation of food must occupy a considerable share of his attention. As a rule, the food of the continental *déjeûner* and *table d'hôte* is perfectly wholesome, but ordinary prudence would suggest the avoidance of the raw ham and sausage often offered in Germany, the use of which is unquestionably fraught with serious danger of *trichinosis*. The cold veal and salad, so popular on the Continent, are apt to be trying to feeble digestions, and although *vin ordinaire* is a very harmless beverage, it should not be consumed in large quantity by those unaccustomed to the use of acid wines. The drinking water at many continental resorts is undoubtedly open to grave suspicion, and the use of some standard and not too mineralised table water is to be commended. It is well for the traveller to remember that the ordinary *carafe frappée* and *siphon d'eau de seltz* are really made with ordinary town water, and that their use is therefore open to all the usual risks.

In former days a large proportion of the continental hotels were notoriously deficient in sanitation, but this is now rather the exception than the rule. The credit of this reform undoubtedly belongs largely to our own nation, which has always been impatient of sanitary defects, and has gradually succeeded in impressing its views upon other nations. Nevertheless, if the traveller stray far beyond the accustomed haunts, and especially if he penetrate where the English tourist is unknown, he should still be upon his guard.

An occasional source of danger, especially in Italy, is the unguarded passing from the blazing street into some chilly cathedral or picture gallery. The tourist should remember in such cases that any sensation of "chill" indicates danger, and should act accordingly.

With regard to railway travel on the Continent, the regulations are such as often to compel the use of the first-class carriages, and the traveller pays exorbitantly for such special comforts as the *coupé-salon* or *coupé-lit*. It is well for the tourist to recollect that in most cases he will be compelled to leave the train on crossing the Customs frontier, and care should obviously be exercised if this be at night. It is a common error to make the return journey home at express speed, and the more delicate class of travellers may in this way lose much of the benefit previously accruing from their tour.

# Annotations.

"Ne quid nimis."

## LONDON MORTALITY FROM SCARLET FEVER.

THE evidence afforded by the returns issued by the Metropolitan Asylums Board of a recent marked increase in the weekly number of London cases of scarlet fever admitted to those hospitals, renders it desirable to ascertain whether the returns of the Registrar-General show anything like a corresponding increase in the registered deaths from this disease. In the three decennia 1841-50, 1851-60, and 1861-70, the annual death-rate from scarlet fever in London was successively 0·86, 1·02, and 1·13 per 1000; the annual rates in those thirty years ranged from 0·35 and 0·41 in 1841 and 1846, to 2·12 in 1848, 1·84 in 1869, and 1·87 in 1870. During the more recent decennium 1871-80, the mean annual rate declined to 0·60, the lowest rate being 0·19 in 1873, and the highest 1·06 in 1875. During the forty-three years 1838-80 the death-rate from this disease fluctuated widely from year to year, showing epidemic fatality at four or five year intervals. Since 1880, however, when the rate in London was 0·82, it has steadily declined year by year to 0·18 in 1885 and 0·17 in 1886, these being lower rates than have been recorded in any previous year since the commencement of civil registration in 1837. In the first two quarters of this year this comparative immunity from scarlet fever in London continued, and the annual rate did not exceed 0·16 and 0·18 respectively. Moreover, notwithstanding the evidence of increased prevalence afforded by the Metropolitan Asylum Board returns, no definite increase in the deaths from this disease occurred until after the middle of August. During the first seven weeks of the current quarter ending 20th August, 159 deaths from scarlet fever were registered in London, while the corrected average number in the corresponding period of the ten years 1877-86 is 294. In the three succeeding weeks the registered deaths from this disease were 36, 39, and 53, the last two numbers being respectively 3 and 18 in excess of the corrected average. The annual death-rate from scarlet fever in London in the ten weeks ending Saturday, 10th inst., was 0·35 per 1000, corresponding with the mean rate from the same disease in the same period in

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the twenty-seven provincial towns. It may be noted, too, that in the week ending the 10th, when the scarlet fever rate in London had advanced to 0·65, it was exceeded in Sheffield, Manchester, Birkenhead, Oldham, and Bristol. As might naturally be expected, the scarlet fever mortality varies greatly in intensity in different parts of the metropolis. The annual rate in the last ten weeks, which was 0·35 in the whole of the metropolis, ranged in the five groups of registration districts from 0·18 in the north, to 0·26 in the west, 0·34 in the east, 0·38 in the central, and 0·52 in the south. Not only the highest death-rate, but the largest increase upon the low rates in 1886, occurred in the south group of registration districts. If we further differentiate this mortality in South London, we find that the rate exceeded 1 per 1000 in the two registration districts of St. Saviour and St. Olave, Southwark, and further that still higher rates prevailed in the sanitary districts of St. George, Southwark, Newington, Bermondsey and Rotherhithe. From the above-mentioned facts it may confidently be assumed that up to the present time the increase of deaths from scarlet fever has been in no way proportionate to the increase of isolated cases.

## INOCULATED TUBERCLE.

DR. LESER of Halle records (*Fortschritte der Medicin*, No. 10) an interesting case of tubercular infection of a wound. He says that the older writers were more persuaded of the possibility of such inoculation than present-day pathologists are. Thus Valsalva and Morgagni were particular to warn against the dangers of such inoculation in the necropsy of phthisical subjects. He reminds us also that the death of Laennec from consumption was attributed by his contemporaries to a wound on the finger received some years previously at a post-mortem on a tubercular case. The revival of such doctrines of late years has doubtless been greatly stimulated by the discovery of the tubercle bacillus; and accordingly we again meet with records of cases, of which the most curious, perhaps, are those respecting the transmission of tuberculosis in the rite of circumcision. (Lindeman, Lehman, and Elsenberg.) Leser's case is briefly as follows: A female, aged fifty-four, came under treatment for a large swelling in the right pectoral region. It appears that, born of a healthy family, with no trace of tubercular taint in its members, she had three years previously received a cut on the ungual phalanx of the right thumb, which she had simply bound up and not treated further. The wound did not heal, and after a time suppurated and became very painful. The skin ulcerated, and at the end of a year a similar ulcer appeared on the contiguous forefinger. Some time afterwards a swelling appeared in the region of the right breast, and attained a large size before the patient sought advice. This swelling extended from the clavicle to the nipple, and proved to be a large subpectoral cold abscess, which Leser evacuated and drained. The pus had a "tubercular character," and the walls of the abscess were lined by tubercular granulations. The lining was scraped out, and a portion of the third rib, which was bare, was excised. The condition of the thumb and forefinger now attracted attention; the ungual phalanx of each was greatly swollen, the skin undermined and in places ulcerated, but the bone not involved. The diseased parts were treated by scraping and excision, and in a few weeks the parts had nearly healed. Microscopical examination revealed typical tubercles and bacilli in the granulation tissue, whilst further examination showed the presence of an enlarged gland on the inner side of the arm, also tubercular; it was also learned that a small abscess had previously formed in this situation. The case thus appeared to be one of tubercular inoculation of a wound of the thumb; secondary infection of the forefinger; then dissemination by the lymphatics, terminating in the formation of a large subpectoral abscess. Dr. Leser says that cases of similar tubercular infection are nearly always to be found in wounds which have been neglected or in chronic ulcers, as if it required that the tissues should be lowered in vitality in order to render them susceptible of infection. He concludes his paper by refuting arguments against the tubercular nature of lupus, and cites a case in which he considers the dependence of lupus upon tubercular infection to be undoubted.

## THE TRADES UNION CONGRESS.

THE Trades Union delegates, who met for their twentieth annual Congress last week at Swansea, did not fail to touch on several questions relating to public health. Some of the delegates complained of the bad ventilation of factories, especially where a certain amount of dampness had to be maintained to prevent brittleness in the threads used for weaving or spinning. Others insisted that the number of inspectors was altogether insufficient, and related how, in their own experience, Factory Acts and Sanitary Acts were alike disregarded. A plumber proposed a resolution to the effect that persons appointed to the post of sanitary or nuisance inspector should have some practical experience and knowledge, whereas, in a particular locality one sanitary inspector was a grocer and the other a publican. From a sanitary point of view, the most important discussion was that which related to underground bakehouses. Mr. Jenkin, of Manchester, said that, though he had made bread for thirty-five years, he had seen an inspector only five times. Nearly all the work was done at night, and then the inspectors did not visit the bakehouses. Mr. Parnell, of London, pointed out that the old Act was preferable, for then the inspectors were under Government; while at present, being appointed by the local authority, they were not so free from unfair pressure. The condition of some bakeries, both in London and Manchester, were stated to be such that if publicly described people would be afraid to buy bread. A resolution was unanimously carried calling on the Government to prohibit the building of underground bakeries, and to obtain the registration, as to proper sanitary conditions, of all existing bakehouses. Further, the Government is called upon to appoint as inspectors men who are well versed in the tricks of trade, and who, when small boys are hid in flour vats, will not conclude that there is no juvenile labour employed. Indeed, at the Trades Union Congress, as in so many other directions, we find the same complaint as to the supineness of local authorities. It is not so much that law is wanting, as that its application is always too leniently enforced. The workmen, who are the principal persons to suffer, have done well to call public attention to these questions.

## MODEL DWELLINGS.

AN interesting account has been written by Mr. H. E. Armstrong, medical officer of health of Newcastle-on-Tyne, of a model dwelling which has been erected in the Royal Jubilee Exhibition of that town. The dwelling, which is detached, is built with materials and appliances which have been presented by different exhibitors, and everything is evidently of a very complete and perfect character. The house has been planned by Mr. R. J. Leeson, and consists of four rooms on each floor, which with the offices are well arranged. We understand that the building will remain permanently after the Exhibition is over, and will serve as a type of all that is good in house architecture. There is no doubt that it will be found of considerable use to the corporation, who, it may be hoped, will be able to exhibit it for the purpose of stimulating the erection of better houses than at present exist. It would be well if every town had the same opportunity of educating its inhabitants.

## WOOLWICH AND SANDHURST.

THE Board of Visitors of the Royal Military Academy at Woolwich and the Royal Military College at Sandhurst appear determined to carry out, to the fullest extent the policy of suppressing all information respecting the health of the cadets in these two national institutions. In 1885 the reports of the medical officers, with returns—very meagre it is true—of the amount and nature of the sickness during the year, which had hitherto been published in the reports of the Board of Visitors, were omitted. In those for the past year no reference whatever is made to the subject as regards Sandhurst, and as to Woolwich there is only a recommendation respecting the provision of proper hospital accommodation in cases of infectious disease, and an observation on the absence of any suitable means of obtaining warm baths. There is no information whatever given as to the extent of sickness among the cadets or the diseases by which they have been affected. It is, no doubt, unpleasant to have public attention called to the evidence afforded by medical returns of the want of due care and regard to sanitary requirements in these important educational establishments, but the suppression of the returns removes a valuable check upon the remissness of those who are responsible for their efficient condition. The comments of the medical press upon the unsatisfactory state of health of the cadets, based upon the results shown in the medical returns, may be very disagreeable and displeasing to the military authorities and the Board of Visitors, but they have been made entirely in the interest of the cadets and their families. If there be nothing to conceal, no neglect to be overlooked, no petty false economy practised at the expense of the cadets' health, the Visitors will do well to restore to their reports, and even in a more complete form, the information which was formerly given. We would call the attention of the medical members of the House of Commons to this subject, in the hope that by a little judicious pressure in the next session the Secretary of State for War may be induced to direct that the requisite information be in future included in the reports.

## THE GLANDERS BACILLUS.

DR. KRANZFELD gives (*Centralblatt f. Bacteriologie*, Bd. ii., No. 10) the results of his recent investigations upon glanders at the Odessa Bacteriological Institute. He first availed himself of material afforded by nodules removed ten hours after death from a case of acute human glanders. Cover-glass preparations of these nodules contained a large number of bacilli. Small portions from the centre of the nodule were introduced into the peritoneal cavity of two guinea-pigs. One of these animals presented marked infiltration at the seat of inoculation on the fourth day, and swelling of the left testis on the seventh day; it died on the fourteenth A greyish ulcer with infiltrated margins occupied the seat of inoculation; the left testis was replaced by a caseous abscess, and the spleen contained numerous yellowish-grey nodules. The pus from these parts and the nodules of the spleen contained numerous bacilli, the ulcer yielding also various micrococci. Cultures on serum, agar-agar peptone, potato, and agar-agar peptone with glycerine were made. The growth of the bacilli on blood-serum and potatoes corresponded to the description given by Löffler. The glycerine agar-agar cultures were the best, whitish streaks appearing at the point of inoculation on the second day, reaching seven or eight millimetres in width by the sixth to the eighth day. The bacilli had the characteristic shape, with rounded ends, as described by Löffler. In the older cultures, some thicker, less regular rods, which stained badly, were thought to be involution forms of the bacilli. No spores were found, thus confirming Löffler's surmise that the bodies described by Weichselbaum as spores are due to the death of the bacillus. In a series of inoculations in guinea-pigs, carried through several generations, the characteristic disease of the testis, nodules in the spleen, and in some cases disease of the nose, were present. No other internal organ besides the spleen was found to be affected. A case is given where a diagnosis of glanders was made by bacteriology. Some nasal secretion from a horse thought to have glanders, but with no clinical facts in support, was sent to the Institute for examination. Guinea-pigs were inoculated with the material, and died in due course with the above lesions. Examination of the pus and of the splenic nodules showed the characteristic bacilli, which were also obtained by cultures. A post-mortem examination on the horse confirmed the diagnosis thus arrived at; it proved to be a well-marked case of pulmonary and nasal glanders.

## CANNED SALMON.

A CORRESPONDENT draws our attention to the process of canning salmon for the British market as performed on the American Pacific Coast, which certainly appears to involve some risks against which the consumers of salmon are entitled to be warned. The operations are described in an article on the subject by our Transatlantic contemporary, the *American Grocer*, as follows:—

"The process of canning is very interesting and more intricate than one would suppose, beginning with the manufacture of the cans and ending with the packing in cases. The tops and bottoms are cut with great rapidity by dies, and the sides by a knife cutter. The sides are then rolled, six at a time, on a machine somewhat resembling a clothes wringer. They are then taken to the men who solder the seams, and from them to others who put on the bottoms with great dexterity and rapidity. A little piece of solder called a "float" is dropped into the can, and the hot iron is run inside, melting it and fastening on the bottom. There is also in use a soldering furnace and rimmer for fastening bottoms, similar to the one used for covers described later. The cans are now ready for use, after being carefully examined to see that they are perfect. We now go to where the canning begins..... The chunks [of salmon] are then taken to a number of choppers, who slice them lengthwise into a number of small pieces, when they are carried on trays to the fillers. These press the pieces into cans, filling them as compactly as possible. A Chinaman will fill 1000 cans in a day. The filled cans are then taken to the washing machines.....They then pass through the hands of boys, who set the tops on, and are taken to the crimper and soldering furnace. In this machine the edge of the cover is crimped, and the cans then roll across a brick furnace, the ends passing through a trough of melted solder, and continue down a wire tramway to the hands of the testers. The capacity of this machine is from 20,000 to 22,000 per day. The cans are then tested for imperfection by examination and immersion in hot water, and all not air-tight are taken to the solderers."

From this description of the cans it would seem that the bottom is attached to the side by an *internal* seam of solder. This would be unobjectionable if, after being manufactured, they were effectively cleansed before use. Indeed, it would in that case have its advantages. For the solder would protect from contact with the fluid contents the cut iron edge of tinned plate, which is, of course, apt to become oxidised and thus soluble to a greater or less extent. But it does not seem that this necessary cleansing is done, and it follows that some of the flux employed in soldering—presumably chloride of zinc—will be left to mix with the contents of the can. The same difficulty appears to arise in connexion with the operation of closing. For better expedition this is done by rolling the edge of the can through a bath of molten solder. The heating of the contents, which is inseparable

from such a method, must, of course, give rise to an outflowing current of the contained air, accompanied probably by more or less steam, from the half-dried fish. It is not surprising, then, that a staff of testers is kept at work to examine as to the soundness of the joint, or that a large proportion of the cans—it is said 25 per cent.—fail to pass the test. Our difficulty rather is to understand how any can is effectively sealed in this way. But "practice makes perfect," and no doubt the exposure of the tin to the solder bath is for a very brief time only. The 25 per cent. of faulty cans are despatched to solderers, who will of course drench them with chloride of zinc again, some drops of which are sure in these circumstances to find their way into the interior; the more so because it must often happen that the can when it comes into the solderers' hands is cooling down, and that consequently a minute indraught of air will take place through the chinks left in the seams, tending thus to carry in any liquid that may be cast upon them. Upon the whole, then, it is easy to explain both the bad condition in which much of this preserved fish arrives upon our market, and the deleterious effects that are too often traceable to its consumption. The American methods appear, from all accounts, to be admirably expeditious; but, for our part, we should be better pleased with the result, though obtained at a somewhat greater cost in time, if its preparation were marked by more scrupulous attention to details and the use of more scientific processes.

## CONTAMINATION OF AIR BY MANUFACTORIES.

IN an age when the size and population of our towns are increasing with great rapidity under the stimulus of commercial and manufacturing enterprise, whatever tends to promote the wholesomeness of those great hives of industry becomes a matter not merely of comfort, but of vital concern, to those who dwell in them. Great towns are, indeed, full of customs and pursuits which are avoidable causes of injury to the public health. If we examine the present conduct of trade with a candid mind, however sanguine, we cannot but find in the general conditions fostered by feverish competition, in the too common mismanagement of mealtimes, food, recreation, rest, and atmosphere, proof enough to fortify abundantly the serious indictment we have made. It needs, indeed, no protest, no proof even, from us to bring home the practical force of that remonstrance against the wholesale neglect of sanitary rule which is marked in the pale face of many town-bred workers. The anæmic stamp of countenance is due to a variety of unhealthy conditions. Not least important among these is a scarcity of oxygen in the surrounding air, and the presence of impurities due to respiration in confined spaces, to coal-burning on a large scale, to sewer gas, and to the volatile or suspended products of manufactures. This too-prevalent anæmia is the mark of lowered vitality, and the very frequent forerunner of more decided illness. If, therefore, its causes can by any means be counteracted, the use of these is clearly advisable. Not a little has been done already by means of household ventilation and systematic house drainage to purify the air we breathe. In another direction very little indeed has been accomplished, though measures of reform are not only most desirable, but are likely in many cases to become, if carried out, an actual source of income. We refer to the refuse produce emitted by manufactories and work-fields. Notwithstanding the circulation of fresh air which is constantly flowing over town and country, it must be allowed that there is in many places an excess of noxious matter in the atmosphere above what is compatible with healthy life. Coal dust, iron filings, clay from potteries, carbonic gases from brickfields, sulphurous gases, and hydrochloric acid from metal and chemical works, besides ammoniacal vapours, nitrous and nitric acids, arsenious and other metallic fumes, organic gaseous products of decay, are still freely cast forth into the surrounding air. Their influence in the atmosphere is often plainly perceptible by the senses, and, if not as plainly poisonous, has, without doubt, its share in that subtle impairment of vitality to which we have referred. The question relating to atmospheric contamination from this source and its treatment is a large one, and deserving of consideration alike by economists, sanitarians, and the general public. In certain cases it may even, as Professor Foerster of Berlin maintains, come within the province of the Legislature. We are sure, however, that it could, at all events partially, be settled without such interference if employers of labour were more alive than they are to the loss they incur under the present wasteful and injurious system.

## CHOLERA INTELLIGENCE.

WE regret to find that cholera in Southern Italy has exhibited a further substantial increase in severity. In Sicily 36 deaths took place in the province of Palermo in the week ending the 12th inst.; in the province of Catania there were 121 cases and 66 deaths, 74 and 31 respectively taking place in the town of Troina; and in Messina 173 cases and 64 deaths took place in the three days Sept. 10th to the 12th. On the mainland 40 attacks are reported from Naples, 17 deaths having taken place in the three days ending the 11th inst.; 9 cases and 7 deaths are also reported from Aversa and Fatamaggiore in the province of Naples. Fresh attacks are further stated to have occurred at Frosinone, Caserta, Teano, and Capua, in connexion with the movements of troops from an infected locality; Berletta and also Reggio, in Calabria, are still infected, and it is stated that attacks have occurred at Cagliari. From Malta the returns, although incomplete, are more reassuring. In the five out of seven days, when details were received, there were 43 attacks and and 29 deaths up to the 12th; but the disease exhibits no fresh tendency to spread. The British garrison remains unaffected, and it is stated that in many cases the disease is of a mild type. If this latter statement be correct, it must mainly relate to cases not included in the official returns, for the rate of death to attack shown in those returns indicates considerable severity of attack.

## THE ALCOHOL CONGRESS AT ZURICH.

THIS has been a highly successful gathering, the attendance of physicians and statesmen being exceptionally numerous, while the general public took a warm interest in the proceedings. The official report, when published, will be found to contain valuable discussions on "Alcohol as Food," a subject on which the Congress came to a unanimous conclusion, denying absolutely its claims to alimentary value. On "alcohol" as medicine very diverse opinions were announced, and the question was left open. Dr. Dock (a Swiss physician) gave interesting details on vegetarianism, which, he contended, supplied all legitimate requirements of the human subject; and Dr. Fovel, of Zürich, whose specialty is medico-psychology, enlarged on the connexion between alcohol and mental derangement, in the treatment of which he insisted on total abstinence as a primary condition of success. Valuable statistics were adduced by Dr. Lammers of Bremen, and Dr. Rochat of Geneva, on the good work achieved by Temperance Societies and by the Blue-Ribbon movement; while Pastor Krapp, in the absence of his friend M. Miquel, gave a most instructive history of the "Twelve Years' War" waged in Germany against alcoholism. The Temperance Society, headed by Dr. Lammers, numbered 10,000 members, and the pressure such unions could bring to bear on Governments in raising the tax on spirituous beverages and thus restricting their sale

must, he anticipated, prove ere long effective. Meanwhile, the labouring poor were being more and more largely provided with people's halls and coffee-rooms, where intellectual and profitable recreation could be enjoyed without the temptation to indulge in the poisonous drinks so universally obtruded on them hitherto. Dr. Rindfleisch furnished gratifying proof of the efficacy of the Evangelical Total Abstinence Society, and showed that every creed had borne a hand in the work—not least the Jesuits, since the first establishment of their order.

## THE ILFRACOMBE DISASTER.

IT is satisfactory to find that the inquiry by the coroner has been supplemented by one held at the instigation of the Board of Trade, which brings out in explanation of this shocking catastrophe some practical points, the observance of which may tend to prevent similar accidents. The report of the finding of the Court on which we write is probably not fully accurate, and is somewhat contradictory. But there are two or three important points on which it seems explicit. There was no reason why the vessel should have had so large a well in her centre. Life-buoys should be carried in some convenient form. It is suggested that the cushions of the seats might be made available as buoys. Thirdly, the Court found that the casualty was due to the main-sheet having been made fast, instead of being held in the captain's hand. We devoutly echo the hope of the Court that proper regulations may be made by some responsible authority for securing the observance of all the precautions recommended by the Court. Otherwise we shall only too surely hear of similar distressing accidents.

## PREVALENCE OF SCARLET FEVER IN LONDON.

THE rapid increase in the number of scarlet fever cases under treatment in the Metropolitan Asylum Board hospitals has very reasonably attracted much public attention. The number of these cases, which had fallen in the middle of April to 368, slowly increased to 476 at the end of June, and has rapidly increased since that date to 1153 on Tuesday last, the 13th inst. It is evident that the value of these figures, even as an indication of the prevalence of this disease in London, depends in great measure upon the proportion which the cases treated in hospital bear to the total cases, and that they afford no indication of the mortality from the disease, which can alone be ascertained from the Registrar-General's returns. As regards the proportion of scarlet fever cases in London treated in hospital, it was pointed out in the Registrar-General's last Annual Summary that in 1878 only 7 per cent. of the deaths from scarlet fever were recorded in the Metropolitan Asylums Board and London Fever hospitals, while the percentage rose to 13·2 in 1883, 17·6 in 1884, 20·2 in 1885, and 22·7 in 1886. This steady increase in the proportion of London scarlet-fever cases treated in hospital has been regarded as having a probably intimate connexion with the marked decline in the metropolitan mortality from this disease in the last ten years. It is satisfactory, therefore, to find that a still larger proportion of the cases is at the present time being treated in hospital. In the ten weeks ending last Saturday more than 30 per cent. of the deaths from scarlet fever in London occurred in the Metropolitan Asylum and London Fever hospitals; in the various groups of registration districts this proportion of hospital-treated cases of scarlet-fever ranged from 20 per cent. in the north and 23 per cent in the east, to 32 in the central and south, and 41 in the west. If we accept the proportion of cases of scarlet fever treated in hospital as affording any test of the efficiency of local sanitary organisation, it is not without interest to note that in the sanitary districts of South London this proportion has ranged in the past ten weeks from 7 per cent. in Bermondsey to 44 per cent. in St. George's, Southwark. It is evident that the continued increase in the proportion of hospital-treated cases of scarlet fever in London causes the hospital returns to give a somewhat exaggerated impression of the prevalence of scarlet fever in the metropolis. Moreover, there is good ground for believing that the type of the disease, which has recently showed such rapidly increased prevalence, is exceptionally mild, and that therefore the deaths from scarlet fever have not increased at anything like the same rate as the cases admitted to hospital.

## MEDICAL JURISPRUDENCE IN ITALY.

A HOLIDAY contributor writes: "As Italy is getting nearer and nearer the goal of her ambition, to be a first-class Mediterranean power, she becomes, *pari passu*, more and more sensible of her deficiencies, and is continually measuring herself, in this department and in that, with her European rivals, generally (to her credit be it spoken) with a frank confession of inferiority, which is the first step towards substantial improvement. I have been struck with this wholesome sign on many quite recent occasions, and not least, on that of the controversy now occupying the Neapolitan journals as to her degeneracy in the teaching and still more in the practice of legal medicine. In this department she led the van, as in so many others, at the Renaissance; now she talks of herself as having fallen far below the standard of Germany and France. For a parallel, indeed, to her self-depreciation in 'medecina legale' we must go back to the Scotland of sixty years since, so graphically described by Sir Robert Christison in his Autobiography. In none of her medical schools, save perhaps three, is medical jurisprudence taught in such a way as to subserve the cause of justice before the national tribunals. Nothing but didactic prælection is meted out to the young medico-jurist, except in Pavia, in Padua, and in Naples, where something like practical training is to be witnessed. Even in these cases, notably in that of Naples, the Government has contributed nothing; the individual energy of the professors has done all. In her numerous criminal trials in which skilled medical experience is appealed to, the counsel for the defence invariably secures far better representation than the public prosecutor, whose choice (so say the leading journals of Naples) is greatly hampered by the miserable *honoraria* at his disposal for the professional skill he invokes. Confusion, contradiction, defeat of justice, too often mark the initial stages of the process, and when the representative of the Crown is driven to calling in superior experts, it is often too late to go over again the bungled and misused *indicia*. Imagine, says a correspondent of the *Piccolo*, a case of deadly poisoning in which the diagnosis was made without the stomach being opened and examined at the necropsy! But this has occurred, and is a typical example of the perfunctory character of expert evidence in the criminal trials of Italy. Payment of professional opinion by the State is almost incredible, both as to system and as to shabbiness. It is regulated *a norma del domicilio*—that is, if the physician or surgeon who is called in resides in what we should call a county town (*capoluogo*), where there is a civil or correctional tribunal, his fee is higher than if his residence is in a commune not similarly provided. Distance and the number of visits he has to make are also elements in graduating his *honorarium*. Thus, for every visit or report he makes, if residing in a county town, he gets three lire (2*s.* 6*d.*); if the town he resides in be not such, he gets two lire (1*s.* 8*d.*). Post-mortem examinations are also paid *a norma del*

*domicilio*, from six lire (5*s.*) to four lire (3*s.* 4*d.*) If the skilled expert is engaged more than four hours over an operation, he gets, in addition to the above, from two to three lire, *a norma del domicilio*, as before. The Italian Government, so say its critics, must raise the remuneration of its medico-legal officers to some equality with that accorded by the outside public, and concurrently it must do what private energy like that of Professor de Crecchio of Naples has done—endow the claims of legal medicine with the means of practical observation and research, so as to provide the student with opportunities of thorough training in his *métier*. Then, and not till then, will Italy resume her old place in legal medicine, and show herself worthy of her great physicians and jurists of the past—of Vico, of Romagnosi, of Beccaria, of Filangieri, and of Puccinotti."

## REFLEXES IN NEWLY BORN CHILDREN.

DR. JULIUS FARAGÓ has published in the *Gyógyászat*, a Hungarian journal, some observations he has made in Professor Ebstein's clinic in Prague on the reflexes of newly born children. Advantage was taken of the lax state of the muscles of the lower extremities while the child was at the breast to test the patellar reflex. Altogether 117 infants under sixteen days old were examined. In all these the patellar reflex was present on both sides, but the strength of the jerk varied a good deal. In some cases there was merely a slight, short, sudden extension of the leg. In others the jerk was stronger and followed by a series of oscillations. Frequently a transient clonic contraction of the quadriceps was noticed. In some cases a slight contraction was observed in the quadriceps of the opposite leg. Dr. Faragó found that the knee reflex is stronger immediately after birth than during the second week. Premature and badly developed children, weighing less than 3000 grammes, have a weaker knee reflex than children born at term weighing more than 3000 grammes. The abdominal and eyelid reflexes were also noted. The cremaster reflex was present in all the forty-nine male children except nine, and in these the testicles were high or else hydrocele was present.

## DUCKER PORTABLE HOSPITAL.

WE have had an opportunity of carefully inspecting, at the Wellington Barracks, a portable barrack constructed by the Ducker Portable Barrack Company at Brooklyn, N.Y., on the model of the one which gained the prize medal offered by H.M. the Empress of Germany. It is constructed in sections made of strong light wooden frames, covered outside and inside with a material called "leather-board," made of leather and jute. This is said to be fireproof, and is so strong as to be free from any risk of damage from accidental rough usage or intentional blows. The fact of there being about an inch of space between the outer and inner covering will tend greatly to prevent the heat or cold of the external air being so much felt as in ordinary wooden huts. The roof is made of the same material, and, like the walls, is double. The leather-board is waterproof, and the hut can therefore, when necessary, be thoroughly cleaned or disinfected by washing. Abundant means of ventilation are provided by a window between each bed, fitted, in addition to the glass sash, with a Venetian shutter, and by an arrangement, should it be deemed necessary, for leaving a space open along the ridge pole. At one end of the building is a small annexe for a stove, by which it may be sufficiently warmed, and at the other end a corresponding one for an earth-closet. The building we examined is adapted for twelve beds, but the Company make them of any size, from four beds upwards. The whole building can be quickly taken down and packed for removal on an ordinary waggon. It seems very well suited for use wherever a temporary quarter may be required, and might be advantageously employed as a hospital for infectious cases during an epidemic. The only defects which we noticed were the want of an ablution room, which could easily be added as an annexe, and used also as a bath-room, and the opening of the annexe for the earth-closet into the hut; it should at least be separated by a short ventilated passage. The building appears to possess all the qualities required to form a portable, useful quarter or hospital, easily put together, quickly taken to pieces, and safe from any serious damage in the transport. The cost of a twelve-bed hut, delivered in this country, is estimated at about £140.

## A BELGIAN ON PROFESSIONAL OVERCROWDING.

A WRITER in *Le Scalpel* the chief Belgian provincial medical journal, has been endeavouring to suggest some satisfactory remedy for the yearly increasing overcrowding of the professions of medicine and pharmacy, each of which is not only far too full itself, but tends to jostle and compete with the other in an undignified manner, complaints and recriminations frequently making themselves heard in the various organs representing respectively medicine and pharmacy. "Legislation which would satisfy us," says the writer referred to, "might be summed up in a few words: 'Pharmacy for pharmacists, but medicine for doctors.'" Let the pharmacists have the sole right to sell medicines, and let drug shops be prohibited as both useless and dangerous: useless because pharmacists sell all the articles which druggists keep—at least those that are not readily obtained elsewhere; and dangerous because the druggist knows but little about poisons, to say nothing of the temptation under which he is to give medical advice to customers. Again, the writer desires that the privilege of keeping a pharmacy and dispensing their own medicines, which is now allowed to medical men in some parts of the country, should be abolished—not, of course, all at once, but gradually. In some poor and sparsely populated localities where there are no pharmacists, and where there is no living to be had for them, it is absolutely necessary for the doctors to dispense, as is the practice in this country; but in other places, where, since the permission to dispense was originally given, poor villages have developed into thriving little towns or important centres, there is not the same necessity for dispensing that formerly existed. Even here, however, it is admitted that it would be impracticable to make the change without long notice. A doctor would have to make his patients understand that he could not attend them for the same fees as when he dispensed, and, of course, charged for his medicines besides. There are many parts of the country where it would be impossible for both a doctor and a pharmacist to earn a living. If they attempted it, both would be in a wretched condition; and if the doctor should be driven away by want, the inhabitants would be left with only the pharmacist. The only solution of the difficulty is, of course, to allow the doctor to dispense, and in such cases the pharmacists have no real cause of complaint. Where hospitals are too small to keep up a dispensary under a pharmacist, the writer thinks that, except under special circumstances, the medical officers should not dispense, but that arrangements should be made with local pharmacists to do the necessary dispensing. He then discusses the question of free trade in pharmacy, and expresses himself in favour not merely of increased stringency in examinations, but of limiting the number of pharmacies, as in Germany. Limitation would, he thinks, serve to increase the scientific attainments of the pharmacists, and to diminish the temptation to sell drugs which are adulterated or of inferior quality. In reading

articles such as this, which are common enough in continental medical journals, two things strike us forcibly: firstly, the universality of the cry of overcrowding; and, secondly, the widespread nature of the belief that legislative interference of one kind or another will help men who are now, either from faults of their own or from force of circumstances, unsuccessful in obtaining a really good livelihood by the exercise of their profession. Whatever may be the case in foreign countries, it is quite certain that no British Parliament would listen for a moment to any suggestion limiting the number of medical men or chemists further than by obliging all to reach a moderate standard of competency.

## SEA-BATHING AT EBB TIDE.

BATHING on an unfamiliar coast is, in any condition of the tide, a risky proceeding. The play of currents is so uncertain that the best swimmer even will be wise to fortify himself with the opinions of those acquainted with the shore and its phenomena before committing himself to the tidal wave. For non-swimmers the precaution is a matter of the most elementary prudence. It is often supposed that safety from all such perils may be assured by the simple expedient of bathing at low tide. Then it is argued, if any current should be set up, its flow will be towards the shore, so that to a bather in difficulties it will be a help rather than a source of danger. Often enough this expectation will be justified by the event, but this is by no means a matter of course. Attention has recently been publicly drawn to the obvious fact that the sea shore does not, as a rule, always slope with a continuous declivity out to sea. It often happens that at some point a gentle elevation or undulation of the surface of the ground will offer a shallow space surrounded on every side by deeper water, and cut off, it may be, by a belt of sea deeper by a foot or two than that in which an unwary bather may be taking his pleasure. In these circumstances an inflowing tide is a very serious matter, unless the bather can swim well enough to cross the deep water. For by its gradual rising the dip of the ground intervening between himself and *terra firma* may be submerged to beyond his depth long before the surging of the water about him warns him to seek the shallower parts. In such a case he will be fairly caught, and he is very fortunate if at the moment of his need he can summon efficient help. It is foolhardy for any person to bathe at sea beyond the visible reach of aid, but upon those who are inexperienced in distance swimming the necessity of taking every possible precaution cannot be too strongly or too constantly enforced.

## THE CHEMICAL TEST FOR KOCH'S BACILLUS.

THE diagnostic value of Koch's cholera bacillus having been considerably impaired by the proved existence of other micro-organisms of like morphological characters, the discovery by Pohl, Brieger, and others of a chemical reaction alleged to be peculiar to cultures of the comma bacillus was welcomed as an additional test of importance. This reaction consists in the development of a red colour (*cholera-roth*) on the addition of hydrochloric acid to the cultures, and, as Brieger has shown, the colour depends upon the presence of a ptomaine containing derivatives of indol. We now learn from the experiments of Ali-Cohen, of the Hygienic Institute of Groningen (*Fortschritte der Medicin*, No. 17), that the reaction is not peculiar to the comma bacillus, and that it may be obtained by the use of any mineral acid that contains the impurity of nitrous acid, for the pure acids do not produce it. The indol derivative is produced by Koch's bacillus somewhat more rapidly than it is by other morphologically identical forms; but then there are bacteria not morphologically allied to the comma bacillus which can produce this substance quite as readily. The discovery of the *cholera-roth* is thus shorn of its diagnostic value, and reliance must still be placed upon bacteriological methods for differentiating the cholera-organism.

## THE LONDON WATER SUPPLY.

IN submitting to the Water Examiner appointed under the Metropolis Water Act, 1871, the results of their analyses of 182 samples of water collected by them during July last from the mains of the seven London water companies taking their supplies from the Thames and the Lea, Messrs. Crookes, Odling, and Tidy remark:—"The water supply of the past month was characterised by an appreciable diminution in the habitually small proportion of organic matter present. In the case of the companies taking their supply from the Thames, the mean amount of organic carbon was 0·146 part, and the maximum in any one sample 0·169 part, in 100,000 parts of the water, corresponding respectively to about one quarter of a grain, and to about three-tenths of a grain of organic matter per gallon. More marked even than the diminution in its proportion of organic matter was the increased degree of freedom of the water from other than a bluish tint of colour. The slight turbidity manifest occasionally for some months past in the East London Company's water was noticeable during the past month, and that to a very insignificant extent, in two samples only."

## SCARLET FEVER AT WOLVERHAMPTON AND IN THE PROVINCES.

SCARLET FEVER is rapidly extending in Wolverhampton. Fifty cases have already occurred, and the disease is spreading amongst school children and others. In the local press a hope is expressed that with the cool weather a diminution of the epidemic may be expected. Unfortunately this is the reverse of what may be anticipated to occur. Scarlet fever generally tends to increase both in extent and fatality during the closing months of the year; and it is this contingency that the sanitary authority is most likely to have to face. Unfortunately scarlet fever epidemics are occurring in several parts of the provinces, and there are reasons for fearing that the marked diminution in the death-rate from this disease in England and Wales, which has been noticeable for some years past, has come to an end, and that with a large child population unprotected by former attacks a general recrudescence of the disease may be expected.

## AN INJUDICIOUS JURYMAN.

SOME lawyers, careful only for the speedy transaction of business, have condemned as opposing an unnecessary obstacle to the course of justice the system of trial by jury. Some jurymen, on the other hand, have shown at times an undue sense of the dignity and responsibility of their office by the tenacity with which they have maintained, in season and out of season, their privilege of individual judgment. Of this number was one who officiated at an inquest held a few days ago on the body of a man who died suddenly of apoplexy. Having tried in vain to obtain from the medical witness in this case an answer to the question whether the death of the deceased was positively attributable to the paralytic seizure, or to the fact that he had previously had a fall, he commented in an excited manner on what he considered to be culpable ignorance on the part of the practitioner. We do not blame him for the inquiry. It was not an unnatural one, nor was it inappropriate to the purpose of the inquest. What we do condemn, as the coroner also did, is his pertinacious insistence that here doubt was inexcusable and tantamount to incapacity. Questions of this kind, it is true, are sometimes capable of

more definite solution, but as often they are not so, and it certainly argues neither ignorance nor negligence in examination when, in the latter case, a medical man is unable to make a cut-and-dried statement assuming an impossible certainty. It seems very clear that had the obstructive member at this inquest observed a due regard for this fact, time would have been saved, needless friction avoided, and justice satisfied.

## EXTENSIVE CONTRACTION OF THE LARGE VESSELS.

PROFESSOR C. WALLIS of Stockholm reports an interesting case of stricture or contraction of the large vessels. The patient was a girl of thirteen, who was admitted into hospital with chronic nephritis and hypertrophy of the heart. She died suddenly after having left the hospital, where she had been fairly well. She went home on foot, a walk of about twenty minutes. Before her death she suffered from violent choking sensations. At the post-mortem examination the heart was found to be enormously hypertrophied—as large, indeed, as that of a man. There were no valvular lesions, but there was a marked narrowing of almost the whole of the aorta and of the pulmonary vein; that of the aorta, which was the more marked of the two, was continued into its principal branches, and attained its greatest degree in the abdominal aorta, where a thrombus was found which entirely occluded the vessel. The narrowing was due to chronic arteritis affecting all the arteries to a variable extent. This arteritis consisted principally of cellular infiltration, but also partly in the formation of a firm cellular tissue. No calcareous deposits were found. Professor Wallis is not able to speak positively as to the cause of the affection, but he is disposed to consider it as probably of syphilitic origin on account of the amyloid degeneration which was present in the liver, for which no other cause, as tuberculosis or malaria, appeared to exist. It is, however, right to say that no confirmatory evidence of the existence of a specific taint could be made out

## FIRE-PROOF FABRICS.

IT has long been known that all fabrics, even the most delicate gauzes and muslins, may be rendered uninflammable by chemical treatment. Of course they cannot be made incombustible, but they can easily be so prepared as to be incapable of bursting into flame. The chemical agents employed act by checking and modifying the destructive distillation which precedes what is properly known as inflammation. A familiar example is afforded by phosphorus. Although phosphorus is itself very inflammable, it is difficult to light wood or paper from its flame, because the solid phosphoric acid formed in the combustion coats and protects the article presented to it. Phosphorus burnt on paper chars but rarely ignites it. The chemicals most commonly used for the purpose are alum, borax, phosphate of soda, sal-ammoniac, and tungstate of soda. Alum acts injuriously on the fabrics, especially if coloured, but the others are commonly harmless, and most of them are cheap. Tungstate of soda is the best. Used singly, it is apt to become insoluble and to rub off, but this risk can be diminished by the addition of about 3 per cent. of phosphate of soda. After the ordinary washing, the goods should be immersed before wringing and drying in a solution containing 20 per cent. of tungstate with a proportionate quantity of phosphate. In view of the recent terrible disaster and of many preceding ones, it would surely not be too much to insist that all dresses, hangings, side scenes, and the like, worn or used on the stage, should be protected by this or by some other suitable material. Fires almost always begin on the stage or near it, and no one who has been behind the scenes before or during a performance can wonder at it. It is not too much to say that there is always an imminent risk of fire, and every cause which can lead to it should as far as possible be removed. Of course other reforms are necessary, especially means for the prevention of panic such as we insisted on last week—electric lighting, the fireproof curtain, the smoke exit, the fireman always ready with his hose, and greater facilities for escape. But if any or all of these were adopted and insisted on, it would still be most desirable that as many as possible of the articles which commonly lead to the disasters should be rendered fire-proof. It is matter for grave regret that the Government decided to take no action until next session of Parliament. It would doubtless have been impossible to pass a Bill, but a Royal Commission might and ought to have been appointed to consider and report on the best means of averting horrors which dismay the whole country. We all know how soon public interest in such matters subsides, and unless something is done at once it is greatly to be feared that the old and vicious system will be allowed to continue indefinitely.

## HEALTH OF CALCUTTA.

THE return of the health officer of Calcutta for the second quarter of the year shows the deaths to have amounted to 2463, which exceeds the number in the same quarter of 1886 by 220, but is lower than in any other year of the decennium except 1880. The deaths from fever amounted to 679, and from cholera to 438. The death-rate of the quarter was in the annual ratio of 22·84 for Calcutta and 39·21 for the suburbs per 1000 of the population—a difference dependent, no doubt, in a great measure upon the very insanitary condition of the latter. We learn with much regret that the sanitary staff, which in November last, on the recommendation of the health officer, was organised for the systematic inspection of localities and premises, has been dismissed by the commissioners. We cannot but foresee that disastrous consequences are likely to occur from such a proceeding on the next outbreak of an epidemic of cholera. This miserable economy, if it deserve such a name, of keeping down the rates at the expense of the public health, shows how unfit the natives of Calcutta are for self-government.

## CORTICAL BLEPHAROPTOSIS.

THE region of the angular gyrus, according to Grasset and Landouzy, contains a centre for the raising of the upper eyelid of the opposite eye, since crossed blepharoptosis has been observed as the result lesions of the pli courbe. M. Lemoine has discovered an old focus of softening in the left pli courbe of a man who during life suffered from mitral stenosis, and was attacked four years before his death with an apoplectiform seizure and sudden ptosis of the right eye. It is doubtful, however, whether there is any very special relation between this cortical visual region and movements of the upper eyelid, since ptosis has been found in many cases in which this region was not obviously involved.

## A PROVIDENT HOSPITAL.

ACCORDING to the *Citizen*, it is proposed to convert the title of the Metropolitan Free Hospital into the "Metropolitan Provident Hospital." The working of the institution is to be limited to the radius of a mile from the hospital. The district is to be divided into some half-dozen sections, each with an office presided over by a secretary, who would receive the payments. The tariff of payments would be 4*d.* for each adult, 2*d.* for each child; accidents are to be treated free, and advice and medicines to be given to the members of the Society. This scheme does not excite our admiration. It will apparently turn a hospital into a great

provident dispensary. We do not wonder that there is dissatisfaction among the working men with this scheme. It degrades a hospital for all needy sick into a provident dispensary with territorial and money limitations of the narrowest order. And it is not likely to please medical men, who do not need the competition of a hospital for the small pittances which the poor have to give in the shape of medical fees.

## MEDICAL ARRANGEMENTS AT THE BELGIAN MANŒUVRES.

THERE have recently been some autumn manœuvres in Belgium, the military medical service being organised this year for the first time in connexion with the manœuvres. The surgeons, pharmacists, and other officers were furnished with a little book of instructions. In the field each army corps had four ambulance columns and four field hospitals, each of the latter comprising a pharmacy waggon, an administration waggon, and an ambulance waggon, with four surgeons, two pharmacists, forty-two men, and twenty-two horses, also a depôt of hospital furniture and reserve stores. When a division was engaged, it had eight surgeons and seventeen pupil surgeons at the front, five surgeons and four pupil surgeons at certain posts, with twelve *infirmiers*, also five surgeons at the dressing station with the ambulance column. The directions given to surgeons at the front under fire were: Hæmorrhage to be stopped by temporary expedients; limbs already nearly separated from the body by projectiles to be removed; a penetrating wound of the abdomen or thorax to be closed; a fractured limb to be fixed. No other operations to be performed under fire. Wounded who fall in a state of syncope not to be brought to. The bearers to assist enemies and friends alike, beginning with those most seriously hurt.

## THE SANITARY STATE OF YORK.

THE maintained prevalence of typhoid fever in York is a matter of serious importance. With one exception, there was no single week from Jan. 1st to Aug. 27th of this year in which fresh attacks of this disease were not notified, and in the last week referred to the number was as high as 13. We learn from another part of Mr. North's report that careful inquiry is made into each case, and that much sanitary work and the removal of filth and foul and offensive accumulations are the result. But we have yet to learn that the Town Council have determined on the abolition of the system which allows the storage of large quantities of excreta and refuse near houses—a matter which is of paramount importance in view of the altogether unnecessary spread, from time to time, of typhoid fever in the city. The drainage question in Holgate is also pressing; but it has been "for the present deferred" until the whole question of the drainage of the entire city has been fully discussed and some decision arrived at.

## DEATHS OF EMINENT FOREIGN MEDICAL AND SCIENTIFIC MEN.

THE deaths of the following foreign medical and scientific men are announced:—Dr. Michael J. Dietl, formerly Professor of General and Experimental Pathology in the University of Innsbrück, from cardiac disease, which obliged him to give up his professorship some years ago. He died at Marienbad, and was only thirty-nine years of age.—Dr. Brehme, *Medicinalrath* of Weimar.—Dr. Friederich Reissner, *Obermedicinalrath* of Darmstadt, whose name is known in connexion with a method of preserving animal lymph.—Dr. Johannes Skalweit, of Hanover, for many years secretary to the Society of Analysts and editor of the *Repertorium für Analytischer Chemie*.—Dr. Schott, Professor of Pathological Anatomy in the University of Innsbrück, of heart disease and nephritis, at the age of fifty-seven.

## CONGRESS AT AMSTERDAM.

THERE is to be a Congress for the discussion of Natural Science and Medicine at Amsterdam on the 30th of September and the 18th of October. There will be four sections—1. Physics and Chemistry, under the presidency of Professor Vandesande-Buckhuyzen. 2. Natural History and Biology; president, Professor T. W. Engelman. 3. Medicine; president, Professor Donders. 4. Geology and Geography; presidents, Professors Martin and Kan. This is to be essentially a Dutch Congress, but invitations have been sent to scientists and medical men belonging to the Flemish parts of Belgium. These have, it seems, up to the present time returned but little response to the invitation, only six Belgians having as yet expressed a desire to take part in the Congress, though no less than 500 Dutch members have already enrolled their names. Abstracts of the papers read will be published without delay.

## MEDICAL REGISTRATION.

OUR advertising columns this week contain an announcement from the Registrar of the General Medical Council which we hope will not escape the notice of the profession generally. Much inconvenience has occasionally been experienced by the neglect to send to the Branch Registrar by whom the registration was originally effected notice of change of address, in order that such may be entered in the Register; or to reply to any letter of inquiry that may have been sent from the office. It should be remembered that failure on the part of a registered medical practitioner to comply with the requirements referred to involves the liability of having his name removed from the Register. Also notice should be sent to the same Branch Registrar of any additional qualification it is desired to append to a name on the Register.

## DISINFECTANTS IN MADRID.

THE Madrid municipality has arranged to provide and to pay for disinfectants for employment in streets and houses when their advisers consider them necessary. This, as the leading Spanish medical journal points out, is a very unsatisfactory sanitary precaution, because these substances, to be of any real use, ought to be at hand at a moment's notice, which of course they will not be; but what is more important still, they cannot be of much service as long as cleanliness is so terribly neglected. It would have been much better had the municipal authorities set themselves earnestly about cleansing thoroughly all public places, and insisting on private persons using equally vigorous measures with regard to localities and houses under their control.

## HABITUAL DRUNKARDS.

THE seventh report on the working of the Habitual Drunkards Act, passed in 1879, is now published. It is not a great record, for the Act itself was a poor, feeble piece of legislation, which assumes in habitual drunkards a power of resolution and a reserve of self-respect which are conspicuous by their obliteration. To show how ineffective the Act is, only seventy-three persons last year entered the five or six retreats created under the Act. It is gratifying to learn that in a large proportion of the cases actually treated good results have been obtained. The inspector, Mr. Hoffman, says he is "of opinion that very few are hopeless cases, if they will only give themselves time." The time requisite in most cases is twelve months. We agree with Mr. Hoffman that there is great hope for drunkards, even female drunkards, if law and society would give them fair play and a little help. But to expect them *voluntarily* to agree to part for twelve months from that which they morbidly and madly love is

to be unpractical, and to embody such an expectation in a statute is to display the impotence of legislation. Habitual drunkards are now practically at liberty to go on to their own destruction and that of their families, whose life is often one of extreme misery.

## SMALL-POX AT ROTHERHAM.

SMALL-POX has for some time past been prevalent in Sheffield, and it is now extending to adjoining townships. Rotherham is one of the places infected, and it appears also to be one of those districts where no proper arrangements have been made for the isolation of first attacks of infectious disease, and where, in consequence, such an emergency as a small-pox prevalence finds the proper guardians of the public health at a loss to know how to perform their duty. In this difficulty they have turned to the guardians of the poor, but this body has neither the means nor the legal right to undertake the duty of aiding them. It is sincerely to be hoped that no such emergency hospital will be devised as will prevent the erection of a proper hospital at a time when the requirements of the district can be thought out uninfluenced by panic, the result of previous failure to perform an obvious duty.

## A RIVAL TO COCAINE?

AN alleged alkaloid named stenocarpine, which Dr. Claiborne of New York has extracted from the leaves of a yet unidentified tree having a close resemblance to acacia stenocarpia, is said to possess anæsthetic properties of so pronounced a kind as to make it not improbable that stenocarpine will prove a formidable rival to cocaine. From two to four drops of a 2 per cent. solution instilled into the conjunctival sac enabled various painful operations to be performed on the eye. This dose of the solution of the alkaloid caused complete anæsthesia of the cornea and conjunctiva, lasting twenty minutes. Like cocaine, stenocarpine is mydriatic and causes a lowering of the intra-ocular tension. The anæsthetic effect can also to obtained on the nasal mucous membrane.

## FOREIGN UNIVERSITY INTELLIGENCE.

*Berlin.*—The two assistants in the first medical clinic having been promoted to professorships, the winter session will see two fresh aspirants for professorial honours in their places, Staff-Surgeon Dr. Renvers and Dr. Klemperer.

*Catania.*—Dr. Musumeci has been appointed *privat docent* of Medical Pathology.

*Genoa.*—Dr. Giura has been appointed *privat docent* of Descriptive Anatomy, and Dr. Bossi *privat docent* of Obstetrics and Gynæcology.

*Innsbrück.*—Dr. Moritz Loew, of Prague, has been appointed Extraordinary Professor of General and Experimental Pathology.

*Leipzig.*—Dr. W. Ostwald, of Riga, has been appointed Professor of Chemistry and Director of the second Chemical Institute.

*Naples.*—Dr. Paolis has been appointed *privat docent* of Obstetrics and Gynæcology.

*Palermo.*—Dr. Scimenni has been appointed *privat docent* of Ophthalmology.

*Parma.*—Dr. Pacinotti has been appointed *privat docent* of Clinical Surgery and Operations.

*Pavia.*—Dr. Orsi, Professor of Pathology and Clinical Medicine, who has been absent on account of ill-health, is about to resume his duties.

As we intimated last week to be a likely occurrence, the Emperor of Austria has conferred on M. Pasteur the decoration of the Iron Crown, which includes the title of Baron.

DR. G. F. BURDER, in a letter to the *Western Daily Press*, states that the drought experienced in England this summer has been paralleled in intensity only twice within the last thirty-five years—namely, in 1864 and 1870. In the former year the total rainfall from Jan. 1st to Aug. 29th was 12·172 in.; in the latter during the corresponding period it was 11·655 in.; whilst in the present year it was 12·813 in. Excluding the first two days of June and the last two of August, the rainfall amounted in those three summer months to but 2·385 in.

MILAN is about to erect a bronze statue to Dr. Agostino Bertani, Surgeon-in-Chief to Garibaldi's expeditionary corps in the Italian wars of independence. The sculptor (Vela, of the canton Ticino) has succeeded admirably, and his work will be unveiled with much ceremony on the anniversary of the defence of the city against the Austrians, known as "the five days."

AN original drama, entitled "Black Mail," written by Dr. G. H. R. Dabbs, was played at the Assembly Rooms, Shanklin, I. W., on the 1st inst., with considerable *éclat*. The principal character, "Squire Meredith," was sustained by the author. There are several good medical points in the play.

A WORK by Dr. Charles Mercier treating of the functions of the brain and nervous system, and intended to serve as an introduction to the scientific study of insanity, will shortly be issued by Messrs. Macmillan. It will contain an exposition of the new neurology, and an account of the constitution of mind from the evolutionary standpoint.

IN Aberdare valley the cases of enteric fever are very numerous, the number given last week being 211, with 13 deaths. Typhus has broken out at Dowlais, and is said to have been traced to a dirty, overcrowded dwelling, where rags were used for bedding.

DR. NATHANIEL ARCHER RANDOLPH, Professor of Hygiene in the University of Pennsylvania, met his death by drowning on August 21st. The deceased physician was joint editor with Dr. C. W. Dulles of the *Medical and Surgical Reporter*.

## HEALTH OF THE ARMY.

### No. I.

THE Army Medical Department Report for the year 1885 shows the average strength of the troops at home and abroad, exclusive of colonial corps, to have been 177,928 warrant officers, non-commissioned officers, and men. The admissions into hospital were in the proportion of 1131, the deaths of 11·12, the discharges by invaliding of 19·79, and the mean daily sick of 57·86 per 1000 of the strength. These ratios are all higher than in the preceding year, and the admissions and mean sick are also above the average of the last ten years. The increase has been general throughout the commands, only Canada, Bermuda, and Ceylon having shown a decrease in the admissions, and the West Indies, Mauritius, and Ceylon, in the deaths, compared with the proportion in 1884. The greatest increase in the death-rate occurred in Egypt, Malta, Cyprus, China, and Gibraltar.

In the United Kingdom, an average force of 87,105 furnished 877 admissions, 6·68 deaths, 21·61 discharges by invaliding, and 48·46 constantly non-effective from sickness per 1000 of strength. With the exception of the mean sick, these ratios are slightly above those of 1884, but the difference is not greater in any of them than might be accounted for by the ordinary fluctuations in limited numbers, and they may be considered as indicating a satisfactory state of

health. There were 19 cases, with 3 deaths of small-pox; of these, 5 and 1 death occurred at Enniskillen; 4, with 2 deaths, at London and Hounslow; 3 at Colchester, believed to have been imported from London; and the remainder at different stations in England. There were 96 cases of scarlet fever admitted, of which 3 died; they occurred at stations widely spread over the country—London, Dublin, Fermoy, and Templemore furnishing the greatest number; the Channel Islands, Woolwich, and Aldershot were exempt from it. Of measles, 128 cases were returned, Woolwich and Dublin being the stations most affected. Enteric fever shows a considerable increase; the cases amounted to 146, and the deaths to 42, or 2 in 7 cases; the increase is stated to have been "chiefly due to the occurrence of cases in men recently returned from service in Egypt," but the details given in the report do not enable us to estimate to what extent this circumstance contributed. Chatham and the Channel Islands appear to have been the only military districts which were free from the disease. The only instances in which local insanitary conditions are reported as the cause were—of 1 case in Hyde Park Barracks, "believed to be dependent on a drain which had been opened"; of 3 cases at Pontefract, which "were possibly connected with the faulty condition of a sewer"; and of 1 at Chester, "attributable to faulty drainage." London had the greatest number of cases, amounting to 38, but with only 5 deaths. Of 8 cases of diphtheria, with 2 deaths, 4 occurred at Aldershot, with 1 death, "no doubt influenced by the nature of the soil and the (then) defective drainage of the South Camp, where most of the cases occurred. Improvements in the drainage system have since been effected." Syphilis continues to furnish the high ratio of admissions which followed the abolition of the Contagious Diseases Acts. It amounted in 1885 to 154 per 1000. "Considerable variations in the ratios of prevalence of syphilitic affections are observed in the different districts. Primary syphilis ranges from 189·8 per 1000 in the Dublin district to 51·2 per 1000 in the Cork district. Among the districts showing high rates of prevalence are the Channel Islands 175·7 per 1000, Aldershot 174·2, Home 172·6, and Chatham 135·8 per 1000; and among the districts having comparatively low rates of prevalence are the North British 94·6, the Western district 98·0, and the Southern district 99·5 per 1000.....Including gonorrhœa and its sequelæ, the ratio of admissions for all forms of venereal disease was 275·4 per 1000.....The rate of constant inefficiency from these affections was 19·34 per 1000....." Of 43 deaths returned under the class of general injuries, 34 were by drowning, of which 4 were suicidal and 30 accidental. The total number of suicides was 30, or double that of the previous year. The admissions into hospital from the different arms of the service ranged between 729 per 1000 from the Royal Engineers and 1149 from the Foot Guards; the deaths, between 2·36 in the Household Cavalry and 11·06 in the Royal Engineers; the discharges by invaliding, between 18·96 from the Infantry of the Line and 31·85 from the Foot Guards; and the mean daily sick, between 32 in the regimental depôts and 69 in the Foot Guards. The cause of the latter very high ratio appears to call for inquiry, no explanation of it being given in the report.

In an average strength of 3160 officers, the cases of illness amounted to 292 and the deaths to 7·60 per 1000. Three deaths out of a total of 24 were due to a shell explosion at Shoeburyness; diseases of the circulatory system were the most fatal, being the cause of 5 deaths, 2 from valvular disease of the heart and 3 from aneurysm.

The cases of sickness among the women were in the ratio of 377 and the deaths of 7·59 per 1000. Among the children, the cases were 449 and the deaths 25·57 per 1000. Twenty-eight cases of diphtheria were reported, of which 5 died; 17 of the cases and 1 death occurred at Aldershot.

The reports of the Principal Medical Officers of Districts show that a careful supervision of the sanitary condition of the various barracks has been exercised, and that defects, when pointed out, have been remedied as far as possible.

The average strength of the garrison of Gibraltar was 4353. The admissions into hospital from it were 1034 per 1000; the deaths 8·04; the invaliding 39·28; and the constantly sick 58·25. These ratios are all higher than those of the preceding year, and also above the decennial average. The excess in the admissions was chiefly due to syphilis and gonorrhœa, which were 71 per 1000 higher than in 1884, and there was also an increase in the cases of rheumatism; that of the deaths was from the occurrence of 2 fatal cases of cholera and 3 of enteritis, which bore a close resemblance to cholera, but of which Surgeon-Major Troup reports that the symptoms "simulated cholera, but the characteristic and diagnostic rice-water stools were absent. The origin was traced to the partaking of fish improperly prepared, to a mixture of grapes, alcoholic drinks, and excessive water drinking, with, in one case, sea-bathing subsequently." The cases of cholera could not be traced to any local cause. The disease was prevalent at the time in the neighbouring village of Linea, and cases had occurred among the civil population of Gibraltar. There were 25 admissions and 5 deaths by enteric fever, being in the ratio of 5·7 and 1·15 per 1000. The cases came from all barracks, and the disease could not be traced to any defects in the barracks or their vicinity, or in the water supply. The deaths from injuries amounted to 1·38 per 1000 of the strength, or nearly double the average proportion.

At Malta, in a strength of 4602, the admissions were in the ratio of 923, the deaths of 14·77, the invalided to England of 26·94, and the constantly sick of 59·11 per 1000. With the exception of the invalided, these are all higher than in 1884, and also above the decennial average. The increase in the admissions has been chiefly in fevers, and, to a considerably less extent, also in diseases of the digestive system and in gonorrhœa; in the deaths it has been in fevers and tubercular diseases. The 1st Devonshire Regiment furnished the highest ratio of admissions, which was attributed by the principal medical officer "to the inferior physique and great youth of the men, which rendered them quite unable to endure the unusual heat of the past summer"; it had, however, the lowest death-rate of all the corps which were in the island during the summer, except the Royal Artillery. The only other corps which had as low a death-rate was the 1st Battalion Gordon Highlanders, which did not arrive till Sept. 12th. The cases of enteric fever amounted to 20·3 per 1000, or exactly the same as in 1884; but the deaths were 5·22, as against 4·74. Of the cases, 14 with 6 deaths occurred at Valetta, and 74 with 15 deaths at Cottonera, but we are not informed of the relative strength of the troops in each. The Principal Medical Officer attributes the difference to "the improved water supply of Valetta, while that of Cottonera remains much the same as before." Of remittent fever 72 cases were admitted, of which 3 died; they were of the form known as Maltese fever. "Antipyrin in thirty-grain doses is mentioned as being most efficacious in reducing temperature and affording relief to the headache and restlessness so much complained of." Syphilis was slightly less prevalent than in 1884, but almost identical with the rate of the last six years. There were 40 cases of dysentery with 2 deaths, but they almost all occurred in soldiers recently returned from Egypt. None of the other diseases seem to require notice.

The Royal Malta Fencible Artillery, 353 strong, furnished 821 admissions, 2·83 deaths, 11·33 invalids, and 26·60 constantly sick per 1000 of strength. The admissions and mean sick are above the average of preceding years, chiefly from the prevalence of fever and rheumatism, but the deaths and invaliding are under the average. The numbers under observation are, however, too limited to justify any deductions.

The average strength of the troops at Cyprus was 852; the admissions into hospital were 1077, the deaths 21·13, the invalided to England 8·21, and the constantly sick 43·60 per 1000. Except the invalided, these ratios are all higher than in 1884, and are also above the average of the preceding six years. The increase in the sickness and mortality was due to the arrival in July of 3020 officers, non-commissioned officers, and men from Egypt, many of the men "being in a very sickly and debilitated condition from the hardships of the recent campaign at Suakin, and to enteric fever having broken out among them." They were encamped at Troodos; three battalions of Guards left for England on August 25th, and the remainder of the troops from Egypt on Nov. 14th. Enteric fever caused 51 admissions and 15 deaths, being in the annual ratio of 59·8 and 17·61 per 1000. The only other deaths during the year were 2 of aneurysm and 1 of dysentery.

The troops serving in the Dominion of Canada are all quartered at Halifax; their average strength during the year was 1273. The admissions into hospital amounted to 715, the deaths to 7·86, the invaliding to 26·71, and the mean daily sick to 41·0 per 1000. The admissions and mean sick were lower than in 1884, but, except the admissions, all the ratios were somewhat higher than the average of the pre-

ceding ten years. Only one case of enteric fever occurred, which, however, terminated fatally. There was nothing noteworthy in the prevalence of the various classes of diseases. The quarters appear to be kept in a satisfactory sanitary condition.

The average strength of the garrison of Bermuda was 1385. The ratio of admissions into hospital was 494; of deaths 13·00, of invalided 23·83, and of constantly sick 28·04 per 1000. The deaths and invaliding were above, but the admissions and mean sick considerably under, the average. The reduction in the admissions was most marked in the diseases of the digestive and cutaneous systems and in local injuries. The excess of deaths was chiefly caused by enteric fever, and to a less extent by tubercular diseases. The admissions by enteric fever amounted to 20·9 and the deaths to 7·22 per 1000 of strength, the former being much lower and the latter a little higher than in 1884. Of the cases, 27 occurred at Prospect; the Principal Medical Officer was of opinion that their origin could be traced to milk supply, aerated drinks, and impure water furnished from outside military precincts, but the medical officer in charge at Prospect says that "sufficient evidence can be brought forward to produce a strong suspicion that the general insanitary state of the town of Hamilton is the cause, under favourable meteorological conditions." Of the prevalence of phthisis the Principal Medical Officer remarks that "phthisis does not seem indigenous in Bermuda, but if the disease is either inherited or imported, it develops with singular rapidity." The deaths from this disease amounted to 2·17, and the invaliding to 5·78 per 1000 of strength.

In the West Indies, the white troops consisted of two batteries of artillery, and the 1st Battalion, North Staffordshire Regiment, with detachments of Royal Engineers and garrison staff, divided between Jamaica, Barbadoes, and Trinidad. The average strength was 900, the admissions were 922, the deaths 7·77, the invalids 18·88, and the mean sick 43·08 per 1000. The admissions and mean sick were higher than in the preceding year, but the deaths and invaliding much lower, and they were likewise much under the average of preceding years. There were 3 cases and 2 deaths of enteric fever, 2 and a death at Jamaica, and the other fatal case at Barbadoes. Five cases of yellow fever, with 2 deaths, occurred in Jamaica; 4, including the two fatal cases, at Port Royal; and the other case at Newcastle. The disease is stated to have been epidemic during the last quarter of the year. On the occurrence of the 4 cases at Port Royal, 2 of which were men attending upon the first cases, the garrison was removed to a camp of isolation at Papine, and the progress of the disease was arrested. The case at Newcastle is stated not to have been contracted at that station. Syphilis and gonorrhœa were the chief causes of the increase in the admissions.

The average strength of the black troops was 1186; the admissions were 983, the deaths 15·17, the discharges by invaliding 22·76, and the mean sick 60·21 per 1000. Except the mean sick, these are all under the ratios of the last ten years, but the admissions and deaths are higher than in 1884. There was nothing in the distribution or occurrence of the diseases which seems to call for special notice. A reduction in the deaths by phthisis was counterbalanced by an increase in those by pneumonia. No cases of yellow fever occurred among the black troops.

In an average force of 422 black troops in West Africa the admissions were in the ratio of 1310, the deaths of 14·22, the invaliding of 59·24, and the mean sick of 69·03 per 1000. The admissions and deaths are under the average, though the former are rather higher than in 1884. Phthisis was, as usual, the cause of the greatest mortality. Three cases and one death of beri-beri were recorded.

At the Cape of Good Hope the average strength of the troops, including a detachment of 140 men at St. Helena, was 3939. The admissions were in the ratio of 881, the deaths of 8·89, the invaliding of 40·11, and the constantly sick, of 52·14 per 1000—all higher than in 1884. The increase in the admissions was chiefly from syphilis and gonorrhœa. There was also a moderate increase in paroxysmal fevers, due to the arrival of troops from Mauritius and Singapore. The greater prevalence of syphilis was most marked at Cape Town and Pietermaritzburg. Enteric fever was the cause of 7·4 admissions and 2·29 deaths per 1000 of strength. The greatest number of cases occurred at Pietermaritzburg, Cape Town, and Rorke's Drift. At Pietermaritzburg the disease was believed to have been caused by water which a detachment from Etshowe drank on the march. At Rorke's Drift it was probably also a consequence of contaminated water supply. At Cape Town three of the cases were believed to have been contracted at Kimberley or Barkly West, and four "in the poorer parts of the town where the disease is almost constantly present." At Rorke's Drift the removal of the troops to higher ground appears to have assisted in checking the disease. It is stated that throughout the colony at the military stations the dry-earth system of conservancy has been carried out with satisfactory results. The health of the detachment at St. Helena has been excellent.

The average strength of the troops on the Island of Mauritius was only 358. The admissions were in the proportion of 2508, the deaths of 16·76, the invalids sent home 39·10, and the constantly sick 82·43 per 1000 of strength. The admissions were higher, but all the other ratios lower, than in 1884. The admissions and mean sick were above, but the deaths and invaliding under, the average of the last ten years. The admissions by paroxysmal fevers continue very high, having amounted to 1478 per 1000, or nearly three-fifths of the whole. Of the 6 deaths which occurred, 2 were returned under the head of enteric and 3 of remittent fever, and 1 of dysentery. The accommodation at Curepipe was greatly increased, and the troops, with the exception of a small detachment, were removed from Port Louis. It is to be hoped that this change, combined with the improvements in the drainage at Curepipe, will result in a marked reduction in the prevalence of fever in the command. Two cases of enteric fever occurred—one at Port Louis and the other at Curepipe, both of which terminated fatally. "It is stated that they were of a typho-malarial character, and that it was impossible to trace their origin to any definite source."

In Ceylon the force averaged 809. The admissions were 1174, the deaths 9·89, the invalided home 29·66, and the mean daily sick 63·20 per 1000. These were all lower than in 1884, and also under the average of the preceding six years. Compared with the latter, there was a considerable increase in paroxysmal fevers, syphilis, and gonorrhœa, and in diseases of the cutaneous system, but a marked decrease in those of the respiratory, digestive, and absorbent systems, and in injuries. There was one fatal case of enteric fever; its origin could not be traced, but the disease is of frequent occurrence among the civil population throughout the island "owing to defective water supply." Four out of a total of seven deaths were caused by diseases of the digestive system, three of hepatitis and abscess of the liver, and one of enteritis. There were 6 cases of delirium tremens and 6 of alcoholic poisoning, being together in the ratio of 14·8 per 1000 of the strength, the direct result of intemperance. Steps are being taken to improve the water supply in the barracks at Colombo, and a grant of money has been sanctioned for the filling in of the moat, which is in a very unsatisfactory state.

The average strength of the troops in China and the Straits Settlements was 2188; the ratio of admissions was 1122, of deaths 11·43, of invalided 40·22, and of constantly sick 42·95 per 1000. Except the mean sick, these are somewhat above the average of the preceding six years. The force was nearly equally divided between Hong-Kong and the Straits Settlements; the admissions in the latter were considerably higher than at Hong-Kong, but the deaths less than half the ratio. Three cases of enteric fever with one death occurred at Singapore, and one case at Hong-Kong; those at Singapore are stated to have been contracted before arrival at the station. There were also three cases of typhus with one death at Tanglin, due, in the opinion of the medical officer in charge, "to overcrowding, which at that time existed in certain barracks and a temporary guard-room." Thirty-four cases of remittent fever with one death occurred at Hong-Kong; "it was supposed that the cause of the outbreak was the malarial exhalations from the rotten disintegrated granite of which the soil of Hong-Kong is composed," which had been freshly turned up around a newly erected fort. Cholera prevailed in an epidemic form among the troops at Hong-Kong from June 18th till July 19th. Nineteen cases occurred, of which 12 died, being in the ratio of 17·05 and 10·77 of the strength of the garrison. The troops were placed under canvas first at Kowloon, across the harbour, and subsequently moved to Stanley, where the last case occurred. The disease prevailed among the civil population also, but "the number of cases reported were comparatively few." The habits of the soldiers seem, as in Ceylon, to be very unsatisfactory, 26

cases of alcoholic poisoning and 6 of delirium tremens having been admitted, being in the ratio of 14·6 per 1000 of the strength. There appears to be a want of sufficient barrack accommodation both at Hong-Kong and in the Straits Settlements, and the drainage of the rifle range at Tanglin is still reported to be quite inadequate, and to this is attributed much of the prevalence of ague among the troops.

## THE AMERICAN EXHIBITION.

DURING the splendid weather we have enjoyed this year vast crowds of people have thronged to the American Exhibition. The pleasure that has rewarded the effort of a visit may, in some instances at least, have also conveyed a few useful suggestions. The Exhibition, it is true, is small, and does not contain many remarkable exhibits. The enterprise has certainly not received the support it merited at the hands of American manufacturers. There seemed, at first, to have existed some lack of confidence, which must now be the subject of very keen regret on the part of those who failed to respond. "Buffalo Bill," however, has proved a host in himself, and we cannot regard his entertainment as altogether devoid of any bearing on questions relating to health. On the contrary, the vigour and physical agility of the entire troop must stimulate the love of wholesome out-door exercises. Such exhibitions are, therefore, likely to help those who by every means seek to improve the strength and endurance of the people.

Within the building of the Exhibition itself one of the most striking features is the plentiful supply of temperance drinks. Evidently this is a great problem. How can we provide a drink that shall be really palatable and yet free from alcohol; that shall consist in the main of water, and yet shall not contain the germs of disease too often present in what is called potable water? Messrs. John Matthews of New York seem in all but one important particular to have solved this problem. They have a magnificent marble fountain, standing some thirty feet high, where iced carbonated beverages are served from an apparatus carefully made so as to be free from all base metals that might affect the water. This water, further, is distilled in a special engine-house just outside the main building, and then aerated with compressed carbonic acid gas. Thus the water is perfectly safe, the pure syrups added give it a very pleasant flavour, and the only fault to find is the high price. While fourpence is charged per glass this cannot become a popular temperance beverage. Should some temperance stimulant be required, these waters can be mixed with the acid phosphate liquid prepared by Professor E. N. Horsford, which has a great sale in America. This consists of a solution of phosphates of lime, magnesia, potash, and iron, with phosphoric acid.

Close to the soda-water fountain will be found the interesting exhibits of Messrs. Wm. R. Warner and Co., American chemists. They exhibit a preparation called "bromo-soda," each dose of which consists of twenty grains of bromide of potassium and one grain of caffeine, made up in effervescing granules. The same firm show a great variety of soluble coated pills and granules, that are elegantly prepared and conveniently packed into very small compass. Their "ingluvin" powder is at least a historical curiosity. From time immemorial the Chinese and the Caucasians have mixed the gizzards of fowls with a variety of dishes, and this has been considered as a wonderful remedy for indigestion. In China chicken gizzards are placed in hot water, reduced to pulp, and mixed with spices, a spoonful being given at mealtimes. Experiments have now shown that the gizzard contains a powerful nitrogenous radical that possesses the qualities of pepsine, and is easily retained on the stomach.

Among other exhibits we noticed an automatic dispensary. By dropping a penny into an aperture, a pill corresponding to the inscription can be withdrawn from the apparatus. Such a happy-go-lucky method of treating human ailments is liable to lend itself to some abuses and not a few accidents; and we must confess that, even in this age of steam and machinery, we are not yet quite prepared to give a licence or diploma to a cast-iron mechanical medicine man. Messrs. Seabury and Johnson show plasters for which they have acquired a wide reputation throughout the United States. Messrs. Frank Giles and Sons exhibit a patent felt paper which is very well adapted to packing medicine bottles so as to prevent their breaking, and only costs sixpence the square yard.

An American Exhibition naturally contains alimentary products, and these, as tending to reduce the price of food, are of assistance in maintaining the health of the poorer classes. Among this class of exhibits will be found the Fairbank Canning Company and the Armour Canning Company of Chicago. Close by, the Johnston Fluid Beef Company distributes beef-tea to all the visitors, and thus seeks to increase the popularity of its useful and nutritious extract. Perhaps among the food exhibits the most remarkable are those of Messrs. Gordon and Dilworth of New York. Apart from a most luxurious display of preserved fruits, we have some calf's-foot-jelly mixed with port or sherry. The glass jars are closed in a patent manner, and the opening is large enough to allow the jelly to be taken out with a spoon, so that it need not be melted as when in bottles. All the preserves are in glass, and this helps to keep the flavour; nor can any chemical action occur, as is sometimes the case with tinned fruits, &c. Finally, we should not omit to mention that in the grounds there is a medical station with a physician in attendance, and that the Exhibition also possesses several ambulances. Thus it will be seen that there are at least a few points of special interest to medical visitors, though these are not numerous.

# Public Health and Poor Law.

## LOCAL GOVERNMENT DEPARTMENT.

### REPORTS OF THE INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

*Diphtheria at Pwllheli, by* Dr. PARSONS.—This is a small town on the coast of Carnarvonshire, closely and irregularly built, the undue crowding together of houses being partly due to natural configuration. There are sewers in the place, but many of the houses are not connected with them, and both sewage and other filth, such as slaughter-house refuse, fouls the harbour. Midden privies prevail, and cause the customary nuisance. There is a public water service, but some pumps remain which deliver suspicious contents. Diphtheria first showed itself in May, 1886, and between that date and the end of March, 1887, 30 cases occurred in 18 households, with 10 deaths. Nothing was ascertained as regards the origin and spread of the disease beyond the usual story of personal intercommunication, and the report terminates with ordinary recommendations of an administrative sort.

*Diphtheria at Haslemere, by* Dr. AIRY.—This well-known Surrey district is in the Hambledon Union, but diphtheria has extended beyond its bounds. Thus, in the Witley sub-district of that union 6 diphtheria deaths took place in 1885, 12 in 1886, and 1 in the first quarter of this year; in the Farnham sub-district of the Farnham Union the deaths for the corresponding periods were 10, 7, and 2 respectively; in the Petersfield sub-district of the Petersfield Union they were 17, 18, and none respectively; and in the Fernhurst sub-district of the Midhurst Union they were 5, 5, and 1 respectively. Thus, it came to pass that the outbreak was being dealt with by four different medical officers of health, amongst whom there was no concerted action. In and immediately about Haslemere some 70 cases and 18 deaths were known of, and one main factor in its dissemination was school intercourse, supplemented by the intercourse between the neighbouring houses of the sick. Incidents bearing on this view are recorded, and an account is given of faulty sanitary conditions prevailing in the district. But Dr. Airy is careful to add that, so far as he was able to ascertain, the outbreak did not show any marked dependence upon the insanitary conditions that came under notice.

### REPORTS OF MEDICAL OFFICERS OF HEALTH.

*Kensington.* — Dr. Dudfield's report, as usual, takes cognisance of a number of matters which interest his district, in so far as it forms part of the metropolis as a whole. A staunch supporter of the action taken by the Metropolitan

Asylums Board, he regards the course adopted last year in perfecting the system of removing the sick direct from their homes to the hospital ships as having in large measure led to the diminution in the small-pox mortality; and he claims that the system in question was instituted upon his recommendation to the Asylums Board and to the Local Government Board. He also quotes the Registrar-General's statement to the effect that, whatever the cause of the failure of London to improve in its relation to small-pox to the same extent as the provinces, that cause came into operation long before the hospitals were opened. We doubt this, and we note that this conclusion is largely affected by the use which has been made of the mortality returns for the 1871 epidemic. Place these returns on one or other side of that dividing line and conclusions almost diametrically opposed to each other can be obtained. With regard to the present stage of the question of the spread of scarlatina Dr. Dudfield's criticisms of the report made by Professor Axe, and issued on the authority of Professor Brown, are worth reading. Other matters of general importance are dealt with in Dr. Dudfield's report, which forms a good *précis* of the progress made in matters relating to the general health of the metropolis. Reverting to Kensington itself, we find that with an estimated population of 173,500 the death-rate for 1886 was 15·9 per 1000, as opposed to 19·9 in the metropolis as a whole; and that the zymotic rate was 1·6, as opposed to 2·7 in the metropolis. A record is given of the action taken as to various matters affecting public health in the district; and as regards the pressing difficulty in dealing with the refuse collected in metropolitan districts, it is stated that a committee is considering the practicability of conveying it to the country for agricultural purposes. We shall be interested to learn the results of these deliberations in view of the public opposition to destructors.

*Basford Rural District.*—On a population of 49,148 there was during 1886 a death-rate of 18·7 in this district, this rate exhibiting an increase on that for 1885. The so-called zymotic diseases caused 108 deaths, of which 42 were from diarrhœa, 30 from whooping-cough, 17 from measles, and 10 from enteric fever. Each group of diseases is dealt with in the report, and its history is the more trustworthy because Dr. Boobbyer succeeds in getting a fair account of sickness returns by means of a voluntary notification. The prevalence of enteric fever shows some 25 per cent. reduction on the average of such occurrences during the previous ten years, and it is evident from the detailed record given that speedy and valuable action is taken to detect fresh attacks, and to deal with their causes. Amongst other work that has been carried out is the preparation of a code of bye-laws now ready for the consideration of the authority. Really good bye-laws are likely in course of time to have a most important influence on the future health of the people, and authorities would do well to give a sufficient amount of their time to a subject which at first sight appears dry and uninteresting. A new form of midden-privy is shown in a diagram. It exhibits such a vast improvement on the old-fashioned form in vogue in this district that its adoption could only effect improvement. But we do not like the capacity given to the structure, for it will favour too large an accumulation of excreta and refuse in localities which are getting populous, and the slanting slab intended to carry the excreta amongst the ashes fails, especially after recent cleansing of the receptacle, to ensure that complete mingling of contents which it is so important to obtain.

## VITAL STATISTICS.

### HEALTH OF ENGLISH TOWNS.

IN twenty-eight of the largest English towns 5784 births and 3333 deaths were registered during the week ending September 10th. The annual rate of mortality in these towns, which had steadily declined in the preceding four weeks from 23·7 to 18·9 per 1000, further fell last week to 18·8. During the first ten weeks of the current quarter the death-rate in these towns averaged 21·4 per 1000, and was 0·2 above the mean rate in the corresponding periods of the ten years 1877-86. The lowest rates in these towns last week were 12·2 in Derby, 14·0 in Bristol, 14·1 in Norwich, and 15·6 in Huddersfield. The rates in the other towns ranged upwards to 25·2 in Manchester, 26·2 in Newcastle-upon-Tyne, 26·7 in Birkenhead, and 29·1 in Preston. The deaths referred to the principal zymotic diseases in the twenty-eight towns, which had declined in the preceding six weeks from 1301 to 792, further fell last week to 768; they included 469 from diarrhœa, 95 from scarlet fever, 83 from whooping-cough, 57 from "fever" (principally enteric), 32 from measles, 28 from diphtheria, and only 4 from small-pox. These zymotic diseases caused the lowest death-rates last week in Huddersfield and Halifax, and the highest rates in Birkenhead, Sunderland, Wolverhampton, and Bolton. The greatest mortality from diarrhœa was recorded in Cardiff, Hull, Preston, Wolverhampton, and Bolton; from scarlet fever in Liverpool, London, Sheffield, Manchester, Birkenhead, Oldham, and Bristol; and from "fever" in Sunderland, Leicester, and Birkenhead Of the 28 deaths from diphtheria in the twenty-eight towns, 18 occurred in London, 3 in Birmingham, and 2 in Liverpool. Small-pox caused 3 deaths in Sheffield and 1 in Bristol, but not one in Greater London or in any of the twenty-five other large towns. Only 4 cases of small-pox were under treatment on Saturday last in the Metropolitan Asylum Board hospitals receiving cases of this disease, of which one was admitted during the week. The deaths referred to diseases of the respiratory organs in London, which had been 178, 160, and 169 in the preceding three weeks, declined again last week to 160, and were 4 below the corrected average. The causes of 84, or 2·4 per cent., of the deaths in the twenty-eight towns last week were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Norwich, Plymouth, Wolverhampton, Derby, and Cardiff. The largest proportions of uncertified deaths were recorded in Brighton, Sunderland, and Huddersfield.

### HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 18·7 and 18·5 per 1000 in the preceding two weeks, rose again to 19·4 in the week ending September 10th; this rate was 0·6 above the mean rate during the same week in the twenty-eight large English towns. The rates in the Scotch towns last week ranged from 16·2 in Paisley and 17·3 in Aberdeen and in Leith, to 21·1 in Dundee and 26·0 in Greenock. The 484 deaths in the eight towns last week showed an increase of 21 upon the number in the previous week, and included 45 which were referred to diarrhœa, 40 to whooping-cough, 11 to "fever" (typhus, enteric, or simple), 11 to scarlet fever, 5 to diphtheria, and not one either to small-pox or measles; in all, 112 deaths resulted from these principal zymotic diseases, against 111 and 102 in the preceding two weeks. These 112 deaths were equal to an annual rate of 4·5 per 1000, which exceeded by 0·2 the mean rate from the same diseases last week in the twenty-eight English towns. The fatal cases of diarrhœa, which had been 53 and 39 in the previous two weeks, rose again last week to 45, of which 11 occurred in Glasgow, 11 in Edinburgh, 8 in Dundee, and 7 in Aberdeen. The 40 deaths from whooping-cough showed a further increase upon recent weekly numbers, and included 9 in Edinburgh, 9 in Greenock, 8 in Glasgow, and 7 in Dundee. The 11 deaths referred to "fever" were within one of the number in the previous week; 3 were returned in Glasgow, 3 in Edinburgh, and 2 in Paisley. The 11 fatal cases of scarlet fever also showed a decline; they included 5 in Dundee, 3 in Glasgow, and 2 in Perth. Of the 5 deaths referred to diarrhœa, 2 occurred in Glasgow and 2 in Greenock. The deaths referred to acute diseases of the respiratory organs in the eight towns, which had been 73 and 71 in the preceding two weeks, declined last week to 66, and were 6 below the number returned in the corresponding week of last year. The causes of 60, or more than 12 per cent., of the deaths registered in the eight towns during the week were not certified.

### HEALTH OF DUBLIN.

The rate of mortality in Dublin, which had been 29·3 and 37·5 per 1000 in the preceding two weeks, declined again to 27·9 in the week ending September 10th. During the first ten weeks of the current quarter the death-rate in the city averaged 30·1 per 1000, the mean rate during the same period being but 20·9 in London and 18·6 in Edinburgh. The 189 deaths in Dublin last week showed a decline of 65 from the number returned in the preceding week; they included 36 which were referred to diarrhœa, 17 to measles, 7 to "fever" (typhus, enteric, or simple),

4 to scarlet fever, 3 to whooping-cough, and not one either to small-pox or diphtheria. Thus the deaths resulting from these principal zymotic diseases, which had been 78, 48, and 65 in the preceding three weeks, further rose again last week to 77; they were equal to an annual rate of 11·4 per 1000, the rate from the same diseases being but 3·3 in London and 4·8 in Edinburgh. The fatal cases of diarrhœa, which had been 39, 30, and 31 in the previous three weeks, rose again last week to 36. The deaths from measles, however, showed a decline of 6 from the number in the previous week. The 7 deaths from "fever" showed a further increase upon the numbers in recent weeks, while those from whooping-cough were less numerous. The deaths both of infants and of elderly persons showed a marked decline from the high numbers returned in the previous week. Six inquest cases and 2 deaths from violence were registered; and 53, or considerably more than one-fourth, of the deaths occurred in public institutions. The causes of 28, or nearly 15 per cent., of the deaths registered during the week were uncertified.

## THE SERVICES.

Deputy Surgeon-General R. W. Clifton has been appointed Principal Medical Officer to the Curragh Brigade.

ARMY MEDICAL STAFF.—Surgeon Richard Charles Kirby Laffan has been seconded for service under the Egyptian Government.

MILITIA MEDICAL DEPARTMENT.—Surgeon-Major J. R. A. Douglas, 5th Battalion, the Royal Fusiliers (City of London Regiment), resigns his commission; also is permitted to retain his rank and to wear the prescribed uniform on his retirement.

ARTILLERY VOLUNTEERS.—1st Glamorgan: Philip Rhys Griffiths, M.B., to be Acting Surgeon (dated Sept. 10th, 1887).

RIFLE VOLUNTEERS.—2nd Volunteer Battalion, the Worcestershire Regiment: William Leonard Braddon, M.B., to be Acting Surgeon (dated Sept. 10th, 1887).—1st Volunteer Battalion, the Northumberland Fusiliers: Acting Surgeon C. Farmer resigns his appointment (dated Sept. 10th, 1887).

ADMIRALTY.—In accordance with the provisions of Her Majesty's Order in Council of April 1st, 1881, Staff Surgeon James Robertson has been placed on the retired list of his rank (dated Sept. 2nd, 1887).

The following appointments have been made:—Surgeon Alfred E. Weightman, to the *Garnet* (dated Sept. 10th, 1887); Surgeon George T. Collingwood, to Chatham Hospital (dated Sept. 10th, 1887); and Surgeon James Crevie, to be Surgeon and Agent at Belhelvie (dated Aug. 31st, 1887).

# Correspondence.

"Audi alteram partem."

## THE TREATMENT OF PERFORATING ULCER.

*To the Editors of* THE LANCET.

SIRS,—I have read with much interest the cases of perforating ulcer recorded by Mr. Bland Sutton and Mr. Pryce in THE LANCET of July 2nd, for I have continually to treat a number of cases of this troublesome complication in the Leper Asylum here. I must, however, comment on a point in treatment, which I am aware is not new, but which does not seem to be sufficiently recognised. I have before me notes of three cases in which I cut down upon and stretched the sciatic nerve for painful perforating ulcer. In the first case the ulcer healed and the pain vanished. In two months, however, it returned so severely that the patient begged for amputation. I then stretched the external popliteal and slit up a sinus in the sole, making a large T incision. Since that date (five months ago) he has made no complaint. The ulcer is not quite healed and seems inclined to remain stationary. In the second case the pain was relieved, the swelling of the foot diminished, and the ulcer lessened in size. In five months more the foot became very swollen and inflamed, the ulcer very painful, and dead bone was removed. He also begged for amputation. Instead of this, the foot was freely incised in various directions, and sloughs carefully removed as they formed. In a month the ulcer on the sole was nearly healed, the incisions were granulating well, and there was no pain except when he tried to walk on the foot. In the third case there was temporary relief; but the foot became gangrenous, and at the patient's own request the leg was amputated a month later. The posterior tibial nerve was greatly thickened, the fibres being separated by gelatinous-looking material. The stump was perfectly healed in two months more, and the patient was getting about with a wooden leg.

I could multiply examples, but these are enough for the present purpose. My experiences of nerve stretching are still accumulating, and are not yet ripe for publication; but this I feel justified in saying, as a result of observation so far, that amputation for perforating ulcer should never be thought of till nerve stretching and free incision of the ulcer have been thoroughly tried.

I am, Sirs, yours truly,

BEAVEN RAKE, M.D. Lond.,
Medical Superintendent of the Trinidad Leper Asylum.

August 13th, 1887.

## PAIN AND ITS INTERPRETATION.

*To the Editors of* THE LANCET.

SIRS,—I have read with great interest the articles published in THE LANCET under the above heading. They have already called forth letters of protest, at which I am not surprised, containing as they do much that is debatable.

As a general proposition, it may safely be said that pain is of service to mankind. To this, I imagine, no one will demur. It is one of the solid foundations on which our treatment is based. Proofs of it are abundant. Take, for instance, an injured joint. A man gives his knee a violent wrench; the structures are severely strained; some of the ligaments are ruptured; and synovitis follows. The man has pain, which is increased on movement, and so instinctively the joint is kept fixed and is given rest. The surgeon fixes the knee on a splint, absolute rest is maintained, but still pain continues. At first the pain was useful, and amongst other things pointed out the treatment; but when rest is obtained, of what use is the pain?

In many and various other instances the utility of pain is clear; but to say, as was said by Mr. Gillies, that "pain comes at the right time," and "never comes where it can serve no good purpose," is palpably fallacious. Take the case of a woman with that truly terrible affliction, scirrhus of the mamma. It begins as an excessive epithelial growth, at first perhaps of only a very few cells. A small tumour is developed, and for weeks or months she may be completely unconscious of it. Now pain in her case, to be of good purpose, should be felt quite early in the course of the important change. What do we find? For months, may be, she is quite ignorant of the fact that she has within her the beginning of what will ultimately be her end. The tumour grows, neighbouring structures become contaminated, and pain comes on and persists, which by the exhaustion it induces hastens on the inevitable. In this stage, of what service is her pain? The diagnosis is made, the disease is too far advanced for operation, the patient knows that she is beyond the reach of surgery, and so, tortured with pain night and day, she waits, and prays for a speedy release. And yet the writer stoically says, "Pain is merciful."

Further on he says: "Pain is in direct proportion to the powers of repair—that is, to the probability of recovery." So it appears that the woman who is the most affected with cancer and suffers the most pain is more likely to recover when operated on than the one who has the small, initial, and painless cancerous tumour! Is this the teaching of modern surgery? Is this the practice of its disciples—the writer of the articles amongst them? The one fact that stands out clearly in the statistics of the operations for cancer is that the sooner the patient is rid of the tumour the better will be the prospect; and could we but diagnose the affection in its painless state, when it first becomes heterologous, and acted accordingly, the prognosis would be extremely favourable. This, unfortunately, we are unable to do.

The writer would have us believe "that the measure of pain which attends an injury or a disease is a prophecy in that same measure of recovery." If so, then the more acute and painful a pleuro-pneumonia, the more pain after a fractured rib the more pain after a ruptured bladder, the

more acutely strangulated and powerful a hernia, the more excruciating the headache in meningitis, the greater are the prospects of recovery! Different temperaments do not enter into his calculations; it is one absolute rule—"the more pain, the more likely to recover." If he follows his own conclusion he will most assuredly be led into many a pitfall.

If pain be the unmixed blessing we are asked to believe it is, why do we in all cases endeavour to palliate it? Why does health suffer from its persistency? Why often when pain ceases does health improve? And why do we completely abolish it during the performance of operations? Pain is a universal human legacy. It is the penalty we pay for our high state of development. It is what generations of medical men in all climes have striven with all their strength and knowledge to lessen or to annul. We walk in their footsteps, but with more powerful weapons against the dread inheritance. Others will follow us, and so the warfare will ever continue.

I am, Sirs, yours faithfully,

E. R. WILLIAMS, M.R.C.S.

Richmond Gardens, Forest Gate, E., Sept. 12th, 1887.

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*To the Editors of* THE LANCET.

SIRS,—Relative to your annotation "What is Pain?" and also to the articles on the "Interpretation of Disease," may one inquire if it is not as absurd to speak of the "purpose of pain" as it would be to talk about the *purpose* of hæmorrhage from a severed vessel? In the latter case the function—it may be called—of conveyance is interfered with and blood flows out and is lost, but no one talks about the *purpose* of loss of blood. It is perceptible to our senses just as much as pain is, and is additionally perceptible to sight, and no doubt serves as a warning to us to take measures to check it; but would anyone therefore speak of the *purpose of hæmorrhage* as "protective"? Yet you write—"the purpose of pain is doubtless protective." Hæmorrhage in general terms is a consequence—a sign—of failure, in greater or less degree, of a function of vascular tissue—viz., *conveyance*. So pain is a consequence, a sign of failure of function of nerve or other tissue; and, as a failure, as a defective performance, it has no more *purpose* than hæmorrhage or any other failure or deficiency has. "Purpose" is surely confined to normality, and when the natural conditions under which an organ or a tissue does its work are changed to the extent of causing, for example, hæmorrhage, or pain, or what not, is it not beside the question to talk of "purpose" in it all? All "purpose" was probably expended in providing for the normal working of parts. What "purpose" there may be in disease or its symptoms—e.g., pain, hæmorrhage, &c.—is due to the persistence to the survival of some elements of normality in function, and it is a mistake to speak of the "purpose" of what is really the *failure of purpose* and nothing more.

I am, Sirs, your obediently,

Sept. 1887. G. C. LIPPINCOTT, M.D., U.S. Navy.

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*To the Editors of* THE LANCET.

SIRS,—It is in no contentious spirit I write you again on this most important question, but in the hope, as I have already expressed, that some good will come of it. Dr. Collins compels me to quote a sentence from my last paper: "*Now, let me say that there are serious exceptions—apparent exceptions—to this law of pain.*" I leave him to judge whether I meant to cover cancer by that. I made the expression general for a purpose, and that purpose has been served so far well. I hoped to get men of greater knowledge and experience than I can justly claim to give the fulness of detail that I so clearly saw was at this very point necessary. Towards that Dr. Collins in his two letters has contributed nothing. When I said I did not understand his explanation, I did so honestly fearing that there might be something more in his theory than I could then see—something that his words failed to convey with sufficient clearness. But now that Dr. Campbell has put the matter in a very simple effective expression I am quite ready to accept it, and that entirely in favour of my view of pain, not against it. But let me indicate that the method or process of the evolution of pain is a question at every point quite distinct from the purpose of pain. It is with the meaning, the motive of pain, that I am concerned, not with the process of its evolution. Mr. St. Clair Buxton looks at the matter from the same point of view as Dr. Collins; but that "pain stands out simply as an evidence of evolution" is what I cannot accept. Pain has some other and higher purpose than that.

I am not clear as to what Dr. Collins means in his reference to anæsthetics. The use of anæsthetics in surgical operations is clearly outside the question at issue. Their administration to suppress natural pain is not rarely a questionable proceeding; it is at best a temporary expedient. I think it was Lord Macaulay who said that the suppression of pain by opiates was like taking the warning rattle off the snake but leaving it in full possession of its fangs. I need not elucidate this truth to your readers; they are daily familiar with the fact. In the measure that we know the cause of pain and understand its meaning, I believe anæsthetics shall have more limited use.

There are several points in Dr. Campbell's excellent, thoughtful letter that I prefer not to deal with at present. If I am not mistaken, Dr. Campbell could put us much in his debt by answering his own questions. Would it be too much to ask him at convenience to do so?

I am, Sirs, your obedient servant,

Brockley, S.E. H. CAMERON GILLIES.

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## DEATH FROM CHLOROFORM.

*To the Editors of* THE LANCET.

SIRS,—As it is important that a permanent record should be kept of all cases of death arising out of the administration of anæsthetics, I send you particulars of a death which recently occurred at the Chester General Infirmary—a short account of which has appeared in some of the daily papers.

On Aug. 16th last, a patient, W. L——, aged thirty, was admitted to the infirmary suffering from necrosis of a metacarpal bone, the result of an injury received five months previously. It being considered necessary that the piece of dead bone should be removed, Mr. Lees, house surgeon, on Aug. 18th, asked me to give chloroform for him whilst he performed the operation. The patient had no symptoms of cardiac disease, and both Mr. Lees and myself examined the pulse immediately before the operation, and found it regular and healthy. I administered the anæsthetic on lint, the patient coming very rapidly under its influence (less than three minutes being occupied in obtaining this result), and not more than two drachms of chloroform being used altogether. Mr. Lees commenced the operation, and in a few seconds it was noticed that the pulse became very feeble and flickering and the respiration shallow. Almost immediately after this both pulse and respiration stopped. Artificial respiration by Silvester's method was at once set up, hypodermic injections of ether given, nitrite of amyl sprinkled on lint placed over the nostrils, mustard applied to the heart, and an enema of brandy-and-water administered. Attempts to restore the patient were kept up for more than an hour, when the case was abandoned as hopeless. At the first symptoms of syncope, Dr. Stolterforth, one of the honorary physicians, was sent for, and was present while the efforts at resuscitation were being carried out.

A post-mortem examination was made on the following day by Mr. Lees. The right auricle was found very much distended with blood; all the valves of the heart were healthy, but its muscular substance was brown, and the walls thin and fatty (at the apex of the left ventricle the muscle was not more than one-eighth of an inch in thickness). Under the microscope many of the muscular fibres showed a central deposit of oily material. There were also some pleuritic adhesions.

At an adjourned inquest held on Aug. 26th, the coroner, after hearing the evidence, said "the jury could have little doubt that the deceased came by his death accidentally while under chloroform properly administered for the purposes of an operation. The state of the man's heart was not discoverable at the time of the operation, so not the slightest blame attached to the doctors." The jury expressed concurrence with the coroner and returned a verdict to that effect. I am, Sirs, your obedient servant,

ALFRED MANN, M.B., C.M.,

Sept. 8th, 1887. Visiting Surgeon, Chester Infirmary.

## "UNUSUAL FORM OF SCIRRHUS OF THE BREAST."

*To the Editors of* THE LANCET.

SIRS,—In THE LANCET of Sept. 10th, a case is mentioned on p. 520 of an unusual form of scirrhus of the breast, in which Mr. Treves states that he has not seen an example in which a nodular disposition of the growth has been evident. I venture to think this form is by no means so rare as Mr. Treves imagines. I have seen three such, and in all the progress towards death was exceedingly rapid. In none of these cases were both breasts involved, but the skin over the second breast was in one case especially very markedly nodular, the nodules varying from the size of a small shot upwards. I am, Sirs, yours obediently,

Harley-street, W., Sept. 14th. W. BRUCE CLARKE.

## NORTHERN COUNTIES NOTES.

*(From our own Correspondent.)*

### NORTHERN ATTRACTIONS.

THE Newcastle Exhibition may now be said to be at its very best. Up to this, nearly one million and a half of visitors have passed in. The shortness of daylight is amply compensated by the brilliant electric lighting of the grounds. A course of scientific lectures has been commenced in the theatre of the building, and the following is included—"The Beginning of Life: the Germ Theory of Disease," by A. C. Monro, M.B., D.Sc., medical officer of health for South Shields and Jarrow. Any of your readers who can come to Newcastle for a day or so will be well rewarded for their journey, for, as well as the usual objects of interest to be found in all industrial and fine art exhibitions, the Newcastle display has specialities of its own, such as the Armstrong ordnance in all weights and stages, the machinery in connexion with mining, engineering, and hydraulic works, while the ship models of vessels for peace and war are admitted by competent judges to be, so far, unsurpassed. The show, too, of surgical instruments exhibited by Messrs. Brady and Martin, McQueen, and others of this city, is most complete, and indeed would be difficult to match. I shall, however, say little about these exhibits, as they should be seen by every medical visitor to the Exhibition. There is another attraction offered to visitors now by the opening a few days ago of a new line of railroad from Alnwick to Cornhill, a most interesting and historical part of the borders; and Northumberland is now accessible to the tourist. As this new line is not yet traced on the maps, and has not, I believe, found its way into any of the railway guides, a short sketch of the route may perhaps prove useful. The line in all is about thirty-six miles, running from Alnwick to Cornhill, a village about two miles from Coldstream on the Tweed, passing quite near Flodden Field, winding at Wooler round Cheviot, and passing Tankerville Castle. It has seven or eight stations, convenient to some of the best trouting streams in England; and, while writing of trout, I would advise all anglers to come at once, as the northern rivers are just now in perfection, and may be reached with great facility by this new line through Central Northumberland.

Newcastle-on-Tyne, September 13th.

## DUBLIN.

*(From our own Correspondent.)*

### REFORMATORY AND INDUSTRIAL SCHOOLS OF IRELAND.

FROM the twenty-fifth report of these institutions it appears that the admissions to reformatory schools in 1886 were 203, showing an increase of twenty-nine as compared with the previous year. Of the five deaths which occurred, three were from lung diseases, one from mesenteric disease, and one not classified. Of the 7099 children in industrial schools during the past year, seventy-nine deaths took place, of which forty-five were due to diseases of the lungs, six to fever, and two to scarlatina. The educational status of the inmates of industrial schools plainly evinces the deplorably illiterate condition of the class of children who are admitted year by year. No less than 61 per cent. of the children who were admitted in 1886 were quite illiterate; and the returns of previous years are likewise evidence that the normal educational status of children sent to these institutions yearly deteriorates. The inspector draws the attention of managers of reformatory and industrial schools to the importance of having a careful examination made of the arms of all children admitted to their schools to ascertain if they have been vaccinated in infancy, as it appears that a large proportion of the children present no traces of primary vaccination, and are unprotected against the danger of contracting small-pox. With regard to other infectious diseases which children are so liable to contract, the managers are advised to make arrangements for setting apart a small day-room and dormitory for the reception of recent admissions and their retention in these "observation wards" for a period of two weeks after admission. Many children are committed to industrial schools from the crowded tenement dwellings in large towns. Some of these may have recently suffered from infectious or contagious diseases, or may have been in contact with affected persons to such an extent as to become carriers of infection. The necessity for some arrangement of the kind recommended has been recently shown by a case in which a child admitted to a country industrial school communicated typhus fever to two Sisters of Mercy, both of whom died from the disease thus accidentally introduced.

### A CENTENARIAN.

A man named Crooke died in Tipperary Workhouse last week at the advanced age of one hundred and six years. Until a month before his death the man is said never to have been sick a single day. He never wore a collar or cravat, but, in his own words, "gave his breast to the breeze, so that his lungs always had room to blow."

### CORPORATION OF CORK PRESENTMENTS.

At a meeting of the Town Council held last week, the following presentments were passed—viz., Cork Fever Hospital, £500; North Infirmary, £350; South Infirmary, £350. The presentment for the District Lunatic Asylum, amounting to £2812 19*s.* 7*d.*, on a division was postponed, as a protest on account of the authorities not appointing as governors the members of the corporation selected for the office. As passing this presentment is mandatory on the corporation, the protest appears a rather insignificant method of retaliation.

Samuel Stuart, M.D., J.P., died at his residence at Donaghadee last week, aged seventy-three years.

Dublin, Sept. 13th.

## BELFAST.

*(From our own Correspondent.)*

### QUEEN'S COLLEGE.

FROM the report of the President (Dr. Porter) of the Queen's College, Belfast, for the session 1886–87, I learn that 110 students entered the College for the first time during the session, and the total number of students enrolled in each department during the session was as follows:—Arts, 170; medicine, 240; law, 22; engineering, 12; and as 21 of these attended in more than one faculty, the aggregate total of individuals enrolled was 423. In the Faculty of Arts 9 ladies attended, but owing to the College Charter they are not eligible for any awards. The President reports that not a single case of breach of discipline has come before the Council, and the reports of the deans of residence, which are appended, are most favourable. The success of Belfast students at the Royal University has been very great. At the annual meeting of the Royal University held last October, the Vice-Chancellor (Lord Emly) said: "This year at our first university, second university, and B.A. degree examinations, the total number of exhibitions awarded was sixty-five, and of these the students of Queen's College, Belfast, carried off no fewer than twenty-two, and they also won a large proportion of first-class honours." In competing for honours in the Royal University, the Belfast students are at a great disadvantage as

compared with those educated in or near Dublin. All the honour examinations are conducted in Dublin, some of them after the close of the pass examinations, and this involves a larger expenditure of time and money than most young men from the north can afford; and hence students of great promise not unfrequently content themselves with a mere pass. The President reiterates what he said in his last report, that the time must surely soon come when it will be no longer necessary for so large a body of students as the Belfast Queen's College furnishes yearly to the University to go to Dublin for their examinations and degrees. They receive their education in Belfast under professors of acknowledged eminence, and, with the assistance of a staff of well-selected extern examiners, the President maintains that in the Queen's College they could conduct all the examinations with equal fairness, and with at least equal thoroughness. Belfast has now a population of 230,000. It is the commercial capital of Ireland and the capital of Ulster, which has a population of 1,700,000, being more than one-third of the entire population of Ireland and nearly one-half of that of Scotland. In Dublin there are two universities side by side, while in Scotland there are four. The President asks, Why should Belfast not be made the seat of a university for Ulster? The present arrangements for conducting university examinations and granting degrees are not satisfactory; they are not fair, Dr. Porter says, to the people of Belfast and the province of Ulster. The Royal University does not, and from its constitution cannot, supply the educational requirements of the people of the north of Ireland. There is, the President remarks, in Belfast an admirable nucleus for a university. There are 1500 students, *alumni* of the College; there is a large body of students, an efficient professorial staff, an excellent library and museums; and with a small expenditure of money the laboratories might be made fit for thorough practical training. What the College wants is independence, and freedom from an external control which is not helpful. The President points to the great success of Scotland as a nation as being due, in no small degree, to its universities; and in many respects Ulster resembles Scotland, and he asks Her Majesty, in this year of Jubilee, to grant to Queen's College, Belfast, a university charter, that it may be able more efficiently to promote the great object for which it was founded, "the better advancement of learning among all classes of Her Majesty's subjects in Ireland." There is no doubt that the Irish education question is far from being settled. The people of the north have not taken kindly to the Royal University, which is a mere examining board; and, as far as Ulster is concerned, the establishment of a university in Belfast would be most popular. The President refers to the success of the Belfast students at Oxford, Cambridge, the Middle Temple, London, as well as at the Royal University; and concludes his report with the address presented to the Queen on the occasion of her Jubilee by the President and professors of Queen's College.

Belfast, Sept. 13th.

# Obituary.

## JOHN SHEA, M.D.,

PHYSICIAN TO THE ROYAL BERKSHIRE HOSPITAL, AND MEDICAL OFFICER OF HEALTH TO THE BOROUGH OF READING.

IT is with sincere regret that we have to announce the death of Dr. Shea, of Reading, at the early age of forty-nine, on Tuesday the 6th inst., from an attack of apoplexy. He had felt a little unwell while at breakfast, and retired to his study to be quiet. His family shortly afterwards heard him call, and on entering the room, found him fallen forward from his chair unconscious. Several of his medical neighbours and colleagues at the hospital were soon in attendance, but their efforts were unavailing, and he died in a few hours from cerebral hæmorrhage.

Dr. John Shea was the son of Dr. John Shea of Blackfriars-road, who was one of the oldest practitioners in London, and died only a year or two ago, an octogenarian. Thus Dr. Shea, jun., the subject of this notice, inherited a tendency to longevity. His early death is an instance of the interference with this natural disposition by birth and residence through childhood and early life in London, in a district known to be among the least healthy. At a period when the present educational activity was commencing, Dr. Shea was afforded the advantage of a sound classical and mathematical education, and in due course took his degree in Arts at the London University. He became a member of the Royal College of Surgeons in 1858 and M.D. St. And. in 1861, and settled in general practice in Kennington, where he continued till 1870. A severe illness obliged him to relinquish practice in town, and seek a restoration of health in the country. He retired to Reading for this purpose, where many of his wife's relatives are influential bankers and brewers. The passing of the Public Health Act in 1872 created the office of medical officer of health, to which Dr. Shea was elected, as well as to that of the rural and urban sanitary districts of Wokingham. In due course he became physician to the Royal Berkshire Hospital. In discharging the duties of these offices and that of a consulting physician Dr. Shea passed the remainder of his life. It is not too much to say that his pure, noble, and unselfish nature endeared him to everyone with whom he was brought in contact. Among his professional brethren he was a universal favourite, for he had the happy gift of amalgamating discordant natures, and making his professional brethren friends who might otherwise be estranged. As one of the vice-presidents of the Pathological Society of Reading, he did much to promote its interests, and was mainly instrumental in bringing about the establishment of the new medical library and pathological museum in association with the hospital, which is the centre for professional reunion for the whole neighbourhood. The large numbers attending his funeral, though of a private nature and simple in form, bore testimony to the affection with which one was regarded whose animating principle through life was "to do justly, to love mercy, and to walk humbly with his God."

## JAMES BARR MITCHELL, M.D., L.F.P.S.

DR. MITCHELL, who died somewhat suddenly on the 26th ult., was the son of Mr. Alexander Mitchell of the Apothecaries' Hall, Glasgow and was born in 1818. Educated at the High School and the University of Glasgow, he took his degrees in 1838, and completed his medical studies at Paris and at Padua. He made a special study of botany, a science he pursued under the friendly guidance of the late Sir W. Hooker, with whose family his own were on terms of intimacy. Between 1841 and 1846, Dr. Mitchell accompanied the late Earl Somers as private physician on several prolonged explorations in Syria, Egypt, Greece, and the remoter parts of Asia Minor; Sir H. A. Layard for a time forming one of the party, as did also Mr. J. Harrison Allan, whose beautiful "Pictorial Tour in the Mediterranean" illustrates some of the little known classical spots visited by the travellers. In 1845 he married the daughter of Mr. Archibald Robertson of Liverpool, a gentleman well known in the shipping world. For many years afterwards he resided partly in France and partly in England, devoting himself to various scientific pursuits. He introduced from France the process for manufacturing commercial albumen from the serum of blood, and was the first to make practical trial in England of the Arcachon system of oyster culture. In the introduction of Condy's fluid Dr. Mitchell took an active share, and his enthusiastic advocacy greatly promoted the popularising of that now well-known sanitary agent. In 1868 he was awarded the silver medal of the Naval Medical Congress at Havre for his paper on the Permanganates. Just before his death he was occupied with experiments to prove that salmon smolts could be advantageously reared in a limited salt-water area.

Dr. Mitchell was a member of the old Anthropological Society and of the Society of Biblical Archæology. He was a man of wide experience, deep reading, and much culture. The deceased gentleman leaves a wife and two sons to mourn a loss which will be sincerely shared by a wide circle of friends both at home and abroad.

## DR. ERNST AUGUST MATTHIÄ.

THE "Romance of Medicine" has yet to find its author and scantiness of material will be the least of his difficulties. From "still life" to *la haute politique* there is enough to inspire a dozen novelists. Its characters are to be found where they are hardly to be suspected—even in retired little townships like Wülflingen, near Winterthur, in Switzerland,

where on the 15th ult. died one of the last survivors of the ill-starred rising known as the "Frankfurter Attentat" of 1833.

Ernst August Matthiä was born at Frankfurt-on-the-Main in 1812, son of Dr. Friedrich Christian Matthiä, rector of the Gymnasium in that city. He was barely of age, and still at the literary period of professional study, when the Federal Diet by its severely restrictive press laws aroused to madness the younger and more advanced of the citizens. The *Burschenschaft* took an active initiative in resisting the oppressive enactments, and young Matthiä, with a band of other students, reinforced by a considerable following of peasants, conceived the daring plan of blowing up the Diet. On April 3rd, 1833, the attempt came off. The conspirators stormed the guard-house, and were proceeding to effect their purpose when the military attacked them in force, arrested some of the ringleaders, and put the main body to flight. Matthiä was not taken till the following evening. With nine comrades he was subjected to a tedious State process, and finally condemned to imprisonment for life in the House of Correction.

Sentence was passed on June 18th, 1836, and made public on October 19th. Appeal was lodged against it with the Ober-Appellations-Gericht at Lübeck, and while it was under consideration six out of the ten prisoners, with the connivance of the turnkeys, and also, it is said, of the police on guard, succeeded in escaping. Matthiä and a medical student named Fries (who afterwards settled down in practice at Siffach, in the canton of Basle, where he died full of professional honours) fled to Frankfurt and remained in hiding for five weeks, continually changing their quarters, and assisted by their friends in the press, who published announcements of their safe arrival in more than one foreign port. At last both of them, skilfully clad, wearing spectacles, and with complexion painted, drove in a handsome turn-out to Hoch-heim, where they passed the night; on the evening of the following day they crossed in a boat to Mainz, journeyed through Rhenish Hesse and Rhenish Bavaria to France, and finally found an asylum in Switzerland.

At Zürich Matthiä, now able to breathe freely, applied himself with characteristic energy to the study of medicine, and graduated with distinction at that school in 1839, after which he settled in practice at Wülflingen, near Winterthur. As a practitioner he was highly respected, not only by the cantonal population of his adoption, but by the numerous foreign sojourners (English and American included) in that picturesque neighbourhood, with its interesting records of Roman occupation and its memorials of Zwingli, Gessner, Pestalozzi, and Sulzar. In 1848 he and the remnant of his comrades were amnestied, and since that year he often visited his native town, where he was ever cordially welcomed. Having lived down his "compromised" youth in steady professional work and philanthropic citizenship, he contributed to one of the editions of Brockhaus's "Conversations-Lexicon," a plain narrative of the "Attentat" in which he bore a part. Three only of his fellow-conspirators survive him, one of them a physician in Germany and father of a distinguished professor in that country.

## DR. FRANZ SCHOTT.

A STIRRING and eventful career has just been closed by the death of this well-known army physician at Stuttgart on the 30th ult. Only his early youth and his declining years were spent in his native land. He was born at Steinheim-on-the-Main in the paternal parsonage in 1820. His father, who became successively dean of Geislichen and Herrenberg, sent his son to the gymnasium at Ulm, and thereafter to Stuttgart, where his preliminary education was completed. Between 1837-41 he studied medicine at Tubingen, and in 1842 passed with much credit the State examination and graduated as Doctor in the same year. He repaired to Wurzburg, where he held the post of assistant physician; but academic and civic practice seemed to him to offer an inadequate outlet for his energies. He entered the Dutch Army Medical Service, having previously qualified by an honourable examination at the University of Utrecht, and after a brief visit to his parents he set out for Java by the then tedious and not over-attractive sailing route round the Cape of Good Hope. His first destination was to Sumatra, where the Dutch were carrying on a desultory war in the southern part of the island with the indigenous tribes, among whose savage characteristics cannibalism was not the least pronounced. For six years he saw a good deal of active service there as surgeon to various military detachments, and in 1848, when the tide of revolution was sweeping Germany, he passed his second State examination in Batavia. His next scene of activity was the islands of Borneo and the Celebes, where he was several times under fire, and where, —an even more dangerous experience than that of bush fighting—he encountered and lived through the epidemics which told so terribly on the Dutch arms. Thanks to indomitable pluck, backed by a splendid constitution, which won him the name of the "iron doctor," he continued to earn the most honourable mention in the despatches, when at length a sharp liver attack reminded him of the limits of his health, and constrained him to return home. This was in 1859. Two years thereafter he resumed service in the Army Military Department of the Dutch Indies, this time as directing physician of the first class, corresponding to the post of "General-Arzt," in a German army corps. In 1864, after twenty years' service of a peculiarly active kind, he was induced to retire on a pension, and returned to his native parts, settling down in Stuttgart. He was very Dutch in his ideas and sympathies, and possessed the citizenship of that country, whose usages, particularly in education and public life, he was seldom tired of dilating on, admiringly, to his compatriots. He never forgot, however, that he was a German by birth, and took an enthusiastic interest in all the movements which finally culminated in the proclamation of the Kaiser William as head of the German Empire at Versailles. These events, and the national development that flowed from them, gave peculiar interest to the last two decades of his life, and kept him at an intellectual fever heat, which impelled him to an energy of occupation far beyond his years. He had made himself a proficient in the minutest details of Dutch history—a subject on which he wrote a number of learned and original papers. His last years he devoted to an autobiography, for which those of his friends who were allowed to see it predict a cordial reception from the reading public, abounding as it does in most interesting sketches of the flora and fauna of the Dutch Indies and the Bornese Archipelago, to say nothing of the thrilling incidents of the numerous expeditions in which he bore so honourable a part.

# Medical News.

ENTERIC FEVER AT CHESHUNT.—Many cases of enteric fever have occurred recently at Cheshunt, Herts, and three deaths are reported to have taken place. The local board are exerting themselves to check the epidemic.

ANTHRAX. — An outbreak of anthrax is reported to have occurred amongst a herd of dairy cows at Limington, near Yeovil. The disease has also been prevalent on several farms in Lancashire.

FROM Brunswick a rather severe outbreak of trichinosis is announced. Some 130 persons are now labouring under the malady, and in each case it was found that fresh pork or fresh sausage had been consumed.

BURY AND SUFFOLK HOSPITAL.—On the 8th inst., the two lower wards of this hospital, which have been undergoing improvements, were re-opened by Lady Alwyne Compton and the High Sheriff, in the presence of a large and influential assembly of friends of the charity.

A CAUTIOUS PREACHER.—During the prevalence of scarlet fever in Plainwell, Michigan (says *Sunday Words*), all the churches are closed. The Baptist pastor sends his sermon weekly in a printed sheet to all the members of his flock.

ATTEMPT TO POISON A REGIMENT. — The Allahabad correspondent of the *Daily Chronicle* reports an attempt on the part of some miscreant to poison, by means of arsenic put into a beer cask, the men of the Borderer's Regiment stationed at Fettergarh. Forty of the men were made ill by partaking of the beer, but recovered.

A LAZARETTO FOR THE CANARIES. — The Spanish papers say that plans are being submitted to the Government for the erection of a lazaretto in the Canary Islands, the want of which is becoming yearly more and more urgent, as the traffic between the south-west of Europe and America, and also the west coast of Africa, is increasing.

TESTIMONIAL.—A few days ago Miss Ethel Manson, lately matron and superintendent of nursing at St. Bartholomew's Hospital, was presented by some of the members of the governing body and of the medical staff with a magnificent chest of table plate on the occasion of her resigning her post on account of her marriage with Dr. Bedford Fenwick.

OPHTHALMIA AT THE NORWOOD SCHOOLS. — The Lambeth Guardians have received a report of a satisfactory character with respect to the existence of ophthalmia at the Norwood School. The term for which Dr. Stevenson, the medical officer in charge of the ophthalmic cases, was appointed having expired, it was resolved to continue the appointment for another three months.

THE PECULIAR PEOPLE AGAIN.—Some dissatisfaction has been expressed by the inhabitants of Stanway, near Colchester, in consequence of the refusal by the coroner to hold an inquest on a girl, aged about sixteen, daughter of a member of the sect calling themselves the Peculiar People, who died without having the advantage of medical attendance. The reasons stated to have been given by the coroner for not holding an inquiry were that the girl was over sixteen years of age and did not desire the services of a medical man, and that she appeared to have received from her friends every attention in her illness. The "cause of death" was of course left blank in the certificate of burial.

THE Exhibition of Naval Architecture and Models, opened on Jubilee Day at Plymouth, the profit from which was intended to be devoted to augment the funds of the Royal Albert and the South Devon and East Cornwall Hospitals, seems to have proved, financially, a grievous failure. Instead of there being, as was expected, a goodly balance to hand over to the treasurers of the above-named charities, the promoters of the exhibition are some pounds out of pocket.

POLLUTION OF THE THAMES.—On Wednesday last, at Chertsey Petty Sessions, the Rural Sanitary Authority were summoned at the instance of the Thames Conservancy Board in respect of a pollution of the Thames by means of a drain discharging into the Bourne at a point about two miles from the junction of that river with the Thames. A full bench of magistrates convicted the defendant authority unanimously, the fine imposed being £50 and costs. This was the second conviction.

DONATIONS TO MEDICAL CHARITIES. — Miss E. J. Forster, part owner of South Hetton and Murton Collieries, has given £200 towards the cost of the Hartley wing of the Sunderland Infirmary. Mr. Stephenson Clark has given £50 towards the same object.—Mr. Henry Lewis, of Springfield House, Preston, has given £500 towards the endowment fund of the infirmary of the town.—The Earl of Stair has contributed £100 towards the fund for liquidating the debt on the Ayr County Hospital.

HOSPITAL SATURDAY FUND.—Sir E. H. Currie, speaking at a meeting at the London Hospital for the purpose of hearing the report of this year's efforts, said the total amount realised by the collections reached £12,000, a sum greatly in excess of that of any previous year. At Bolton the sum obtained in workshops and factories by a Saturday collection in aid of hospitals amounted to £1150. At Leamington the collection for a similar purpose reached £226 15s.

HEAT AND DROUGHT IN ODESSA.—The Odessa correspondent of the *Daily News* states that the heat there has been most distressing. There has been no rain. The hospitals, he says, are crowded and the death-rate has risen. There is a great dread of the importation of cholera by Mediterranean vessels, notwithstanding the quarantine regulations. The city sewers are neither disinfected nor flushed, and all the local conditions are unhappily only too favourable for the spread of a serious epidemic.

DEATH FROM BLOOD POISONING.—On the 3rd inst. Mr. Henry Wood, county coroner, held an inquest at Claxton on the body of a boy aged fifteen years, who died on the previous day. According to the evidence, deceased was suffering from a large boil on his arm, and he asked the foreman to cut off the top. He attempted to do this, it appears, with a rusty knife, and deceased also himself repeated the attempt several times. A verdict that deceased died from blood poisoning caused by opening the boil with a rusty knife was returned.

PAUPER LUNACY.—The charge on poor-rates for the care and maintenance of insane paupers has been steadily increasing of late years. The *Metropolitan* publishes the following statistics: In 1876 there were 55,515 lunatics chargeable to the poor-rates; by 1877 the number was 57,221; in 1878 it had increased to 58,942; in 1879 the number was 60,165; in 1880 it was 61,594; in 1881 it was 63,524; in 1882 there were 65,319 insane paupers; in 1884 there were 68,736; and in 1886 the number had risen to 70,820—an increase in the ten years of about 30 per cent.

SHEFFIELD GENERAL INFIRMARY.—On the 7th inst. the annual general meeting of the governors and friends of this charity was held. The report referred to the gratifying circumstance that the year's income showed an excess over expenditure of £1089 18*s.* 8*d.* The chairman, Mr. Alderman Brooksbank, stated that the Weekly Board had been able to effect an arrangement for an addition of two assistant physicians and two assistant surgeons to the medical staff. In future out-patients would be admitted, if necessary, every day in the week.

NORTH-WESTERN ASSOCIATION OF MEDICAL OFFICERS OF HEALTH.—At a meeting held on the 9th inst., Dr. Tatham was elected to represent the Association on the Council of the Metropolitan Society in London. Mr. Francis Vacher made some observations on the quality of the milk sold to the public in Birkenhead. Examination of samples of milk obtained from each of the 130 retail dealers in the town having been submitted to analysis, it was found that, though the milk generally was of good quality, in 21 cases it was either impure or not entire.

SMALL-POX AT SHEFFIELD.—A resolution has been passed by the Sheffield Borough Hospital Committee to purchase some leasehold premises adjoining the hospital, consisting of about 420 yards of land and five dwelling houses, for the purposes of providing increased accommodation in view of the prevailing epidemic of small-pox. Another resolution has also been carried strongly recommending the Council to acquire from 20 to 40 acres of land on or near the Redmires-road, on which to erect buildings or a building as a permanent hospital for small-pox and other infectious diseases.

A NEW DEPARTURE IN FRIENDLY SOCIETY ADMINISTRATION.—A new departure has, we understand, just been taken by the Foresters, the largest Friendly Society in existence, which, if generally followed, will largely supplement hospital work throughout the country. The Midland Courts of the Society have erected and opened a self-supporting convalescent home at Clent, where members who have suffered a long term of sickness may be sent free of charge, and without any burden being placed on charitable funds or public money. The movement promises to be one of the most successful which the Foresters have undertaken.

## MEDICAL NOTES IN PARLIAMENT.

*The Coal Mines Regulation Bill.*

IN the House of Lords, on the 9th inst., the Coal Mines Regulation Bill was read a third time, and passed; and in the Commons, on Monday, the Lords amendment to the Bill was considered and agreed to, after the utterance of vehement protestations on the part of several members, in the course of which Mr. C. Graham was named by the Speaker, and had to withdraw from the House.

*Navy Estimates.*

In the House of Commons, on the 8th inst., on the vote of £75,400 for medicine, medical stores, &c., Dr. Tanner said the drugs in the naval hospitals and on board the ships were of an inferior quality. He also complained that the buying of perishable drugs in large quantities led to great waste, and stated that he had seen a quantity of "German" quinine, which was an inferior quality of the drug, on board the *Devastation*. Lord C. Beresford assured the hon. member that they took the greatest possible care to get drugs and medicines of the very best quality. He would, however, make inquiries with reference to what had fallen from the hon. gentleman. The vote was then agreed to.

*Hospital at Salford.*

On the 10th inst., in answer to Mr. Maclure, Mr. Ritchie said: "The guardians of the Salford Union propose to sell six or seven acres of land adjoining their infirmary at Hope to the Town Council of Salford for the erection of an infectious hospital. Representations have been made to the Local Government Board in opposition to the scheme. In a speech delivered when the present infirmary was opened, the then chairman of the board of guardians appears to have stated that there was an understanding that the guardians would not erect an infectious hospital on the site, but I am informed that there is no resolution of the guardians on the subject. I have instructed the inspector of the district to attend a meeting of the guardians and confer with them as to the proposed sale."

*Vacant Grounds (Nuisance Prevention) Bill.*

The second reading of this Bill, the object of which is to abate a nuisance in the shape of a fair held on the vacant ground adjoining Tottenham-court-road Chapel, was, on the motion of Mr. J. Rowlands, read a second time.

*Coroners Bill.*

On the motion for the second reading of this Bill, Mr. Conybeare commented on the arbitrary power possessed by coroners of excluding reporters from the court—a power which, he thought, ought not to be perpetuated.—The Attorney-General, however, replied that the question raised by the hon. member was foreign to the scope of the Bill, which was then read a second time. On Wednesday the Lords agreed to the amendments to the Bill made in the Lower House.

*Trichinosis.*

On Monday, Mr. C. Gray having adverted to the report that a large number of persons on the Continent were suffering from trichinosis from eating Hambro' bacon, and to the need of protective measures being taken on behalf of the inhabitants of the British Isles, the Secretary of the Board of Trade said no information of the matter had been received by the Board, and that the question relating to the importation of trichinous meat was one which came under the jurisdiction of the Customs.

*Safety in Theatres.*

In answer to Sir A. Borthwick, Mr. Matthews said the Government could not undertake at this period of the session to pass a Bill relating to securing the safety of the public in theatres. But he undertook that the Government would, at the earliest possible opportunity, offer practical suggestions to any theatrical manager who might think fit to adopt them, with a view to ensure safety in the practical details of the construction of such buildings.

*Destitute Aliens.*

On Tuesday, in answer to Captain Colomb, Mr. W. H. Smith said that Her Majesty's Government was fully alive to the importance of placing some restriction on the importation of destitute foreigners into this country, but there were many serious difficulties in the way of dealing with it, among them the right of asylum in this country. It would be unwise for him to say more than that the Government would give the matter their most serious consideration.

# Births, Marriages, and Deaths.

## BIRTHS.

CHARLES.—On the 8th inst., at Limehurst, Spring-grove, Isleworth, the wife of T. Edmondston Charles, M.D., F.R.C.P., Q.H.P., of a son.

MACKINNON.—On the 20th ult., at Bludaw, the wife of Francis Irvine MacKinnon, M.B., M.R.C.S. (Damascus), of a son.

MOORE.—On the 2nd inst., on board the P. and O. steamer *Parramatta*, from Aden, the wife of Surgeon R. R. H. Moore, Medical Staff, of a son, prematurely, stillborn. Indian papers please copy.

PERKINS.—On July 15th, at Patea, Taranaki, New Zealand, the wife of Alfred Temple Perkins, M.R.C.S.E., L.R.C.P. Ed., &c., of a daughter.

## MARRIAGES.

DANIEL—NICHOLSON.—On the 7th inst., at Jesmond Church, Newcastle-on-Tyne, Frederic Edwin Daniel, Esq., M.R.C.S., L.R.C.P., L.M., of Brant Broughton, Lincs. (late of 32, North-road Durham), to Lucy, youngest daughter of the late Joshua Nicholson, Esq., of Newcastle-on-Tyne.

DAVIS—EATON.—On the 8th inst., at Sheffield, by special licence, Henry Davis, M.R.C.S., of Gower-street, London, eldest son of Dr. Henry P. Davis, of Upper Woburn-place, London, to Annie, eldest daughter of John Eaton, Esq., of Sharrow Bank, Sheffield.

HATTON—UDALL.—On the 3rd inst., at Remenham, George Stokes Hatton, M.D., of Newcastle-under-Lyme, Staffs, to Catherine Josephine, third surviving daughter of the late Thos. Udall, Esq., of Woodlands, Remenham, Berks.

WARD—ANDERSON.—On the 31st ult., at St. Mary's Church, Woolwich Lloyd Brereton Ward, Surgeon-Major, Army Medical Staff, to Fanny Louisa Kingsley, daughter of Col. Anderson, Commissariat and Transport Staff, Woolwich.

## DEATHS.

BLOWER.—On the 30th ult., at Duke-place, Bedford, after an illness of twenty-eight years, William Blower, M.R.C.S., L.S.A., aged 84.

BROOKE.—On the 10th inst., at Milman-street, London, Charles Edward Brooke, M.R.C.S., of Oriel House, Scarborough, and of St. Bartholomew's Hospital, fourth son of the late William and Elizabeth Brooke, of Leeds, aged 30.

NORRY.—On the 7th inst., at Epsom, William Augustus Norry, M.B., M.R.C.S., aged 30.

PITCHER.—On Sept. 7th, 1886, at Southport, Arthur Henry Pitcher, L.S.A., eldest son of the late John Henry Pitcher, Proctor, of Doctors' Commons, in his 44th year. (Owing to a printer's error, the above announcement was inserted in our issue of last week "7th inst.," instead of Sept. 7th, 1886.)

ROGERS.—On the 2nd inst., at the Rowans, Woodside-park, North Finchley, Moses Rogers, J.P., late Deputy Inspector-General of Hospitals in India, aged 76.

SHEA.—On the 6th inst., at Reading, John Shea, M.D., aged 49.

***N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.***

# Appointments.

*Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column are invited to forward it to* THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BARRON, HUNTER JACKSON, M.D., C.M.Ed., L.R.C.P.Lond., M.R.C.S., has been appointed Divisional Surgeon to the Metropolitan Police S or Hampstead Division, vice Hochee, resigned.

BRODRICK, H. EDWARD, M.B., M.R.C.S., L.S.A., late Resident Clinical Assistant, East London Hospital for Children and Women, has been appointed Assistant Surgeon to the Liverpool Dispensaries.

CARR, WILLIAM, M.B., L.R.C.S.Ed., has been appointed Medical Officer to H. M. General Prison, Barlinnie, Glasgow.

DAVIES, J. E., M.B., C.M.Edin., has been appointed Resident Medical Officer to the Denbighshire and Flintshire Infirmary, Denbigh, vice John T. H. Davies, M.D., M.R.C.S., resigned.

GREENE, H. BERTRAM, M.R.C.S., L.K.Q.C.P.I., has been appointed Surgeon in the Service of the Royal Mail Steam Packet Company.

LOUDON, MARCUS MOORE, M.D., M.Ch.R.U.I., L.M., K.Q.C.P.I., has been appointed Medical Officer for the Workhouse and No. 1 District, and Public Vaccinator of the Mere Union, Wilts, vice H. P. Long, resigned.

PARK, DAVID SCOTT, L.R.C.P., F.R.C.S.Ed., has been reappointed Medical Officer of Health for the Beverley Borough of the Houghton-le-Spring Sanitary District.

PARKER, ALBANY J. ETHERINGTON, L.R.C.P. Ed., M.R.C.S., has been reappointed Medical Officer of Health for the South District, Houghton-le-Spring.

PHILLIPS, EDWARD E., L.R.C.P. Ed., M.R.C.S., L.S.A., J.P., has been reappointed Medical Officer of Health for the Rochford Rural Sanitary Authority, Essex.

SMYTH, R. V. B., M.A., M.D., B.S., has been appointed Medical Officer and Public Vaccinator for the Third District of the Barnet Union, vice Penn, resigned.

SOUTHEY, A. J., M.R.C.S., L.S.A., has been reappointed Medical Officer of Health for the Slough Urban Sanitary District.

SPROULE, R., M.D., has been appointed Medical Officer to the Gainsbro' Medical Friendly Society, vice Udale, resigned.

TURNER, CLIFFORD W., M.R.C.S., has been elected Resident Medical Officer to the General Infirmary, Leeds, vice T. W. Griffith, M.B., C.M., resigned.

# Vacancies.

*In compliance with the desire of numerous subscribers, it has been decided to resume the publication under this head of brief particulars of the various Vacancies which are announced in our advertising columns. For further information regarding each vacancy reference should be made to the advertisement.*

BATH ROYAL UNITED HOSPITAL.—House-Surgeon. £60 per annum, with board and lodging.

BIRMINGHAM GENERAL HOSPITAL.—Assistant House-Surgeon. Residence, board, and washing, but no salary.

CARDIFF CORPORATION.—Medical Officer of Health for the Urban and Port Sanitary Authorities. £400 per annum.

DEVON AND EXETER HOSPITAL.—House-Surgeon. Salary £120 per annum, increasing £10 a year until it reaches £150, with board and lodging.

EAST SUFFOLK HOSPITAL.—Honorary Physician.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark-bridge road, S.E.—Surgeon to out-patients.

FEMALE LOCK HOSPITAL, Harrow-road, W.—House-Surgeon. Salary £100 per annum, with board and lodging.

GREAT NORTHERN CENTRAL HOSPITAL, Caledonian-road, N.—Obstetric Physician.

HALIFAX INFIRMARY AND DISPENSARY.—Assistant House-Surgeon. £50 per annum, with board and residence.

HORTON INFIRMARY, Banbury.—House-Surgeon and Dispenser. £80 per annum; with board and lodging.

LEAMINGTON AMALGAMATED FRIENDLY SOCIETIES MEDICAL ASSOCIATION.—Resident Medical Officer. Salary £200, with midwifery fees.

LIVERPOOL NORTHERN HOSPITAL.—Resident House-Surgeon's Assistant. No salary, but hospital practice and certificate of attendance, together with board and lodging.

LONDON TEMPERANCE HOSPITAL.—Registrar and Chloroformist. £50 per annum, non-resident.

NEWCASTLE-UPON-TYNE ROYAL INFIRMARY.—Junior House-Physician. Also two House-Surgeons. Board, lodging, and washing.

ROYAL HOSPITAL FOR CHILDREN AND WOMEN, Waterloo-bridge-road, S.E.—House-Surgeon. An honorarium of £70 per annum, with board and lodging.

ST. LUKE'S HOSPITAL.—Resident Clinical Assistant.

SHEFFIELD GENERAL INFIRMARY.—Two Assistant Physicians and two Assistant Surgeons.

TAUNTON UNION.—Medical Officer. Salary £75 per annum, with fees for midwifery of 10s. a case, and 2s. 6d. for lunatic returns.

TORBAY HOSPITAL AND PROVIDENT DISPENSARY, Torquay.—Junior House-Surgeon and Dispenser. Salary £90 per annum, with board, lodging, and attendance, and fees from pupils.

WESTRAY PAROCHIAL BOARD.—Medical Officer. Besides salary, a good general practice.

## METEOROLOGICAL READINGS.

*(Taken daily at 8.30 a.m. by Steward's Instruments.)*

THE LANCET Office, September 15th, 1887.

| Date. | Barometer reduced to Sea Level and 32° F. | Direction of Wind. | Dry Bulb. | Wet Bulb. | Solar Radia in Vacuo. | Max. Temp. Shade. | Min. Temp | Rain fall. | Remarks at 8.30 A.M. |
|---|---|---|---|---|---|---|---|---|---|
| Sep. 9 | 30·26 | S.W. | 56 | 52 | 102 | 68 | 49 | ... | Overcast |
| ,, 10 | 30·03 | N.W. | 58 | 56 | 115 | 66 | 55 | ·04 | Cloudy |
| ,, 11 | 29·98 | N.W. | 58 | 53 | 107 | 66 | 49 | ... | Cloudy |
| ,, 12 | 29·76 | W. | 56 | 54 | 89 | 62 | 53 | ·03 | Overcast |
| ,, 13 | 29·80 | N.W. | 51 | 49 | 100 | 60 | 47 | ... | Cloudy |
| ,, 14 | 29·92 | W. | 52 | 49 | 95 | 62 | 47 | ... | Overcast |
| ,, 15 | 29·94 | W. | 55 | 51 | 106 | 62 | 50 | ... | Cloudy |

# Notes, Short Comments, & Answers to Correspondents.

*It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.*

*All communications relating to the editorial business of the journal must be addressed "To the Editors."*

*Lectures, original articles, and reports should be written on one side only of the paper.*

*Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.*

*We cannot prescribe or recommend practitioners.*

*Local papers containing reports or news-paragraphs should be marked and addressed to the Sub-Editor.*

*Letters relating to the publication, sale, and advertising departments of* THE LANCET *to be addressed "to the Publisher."*

*We cannot undertake to return MSS. not used.*

### "LEAVE HIS FEATHERS TO THE BIRD."

*Mr. Punch*, in his own way—and what an inimitable way it is, combining humanity with great wit and wisdom—has, in his current issue, another pathetic appeal to fashionable ladies to give, if possible, some thought to the cruelty entailed on some of the feathered tribe by the direction taken by their senseless love of extravagant adornment. Must these reiterated protests be for ever in vain?

* * * * * *

"Feathers deck the hat and bonnet,
Though the plumage seemeth fair,
*Punch*, whene'er he looks upon it,
Sees that slaughter in the air.
Many a fashion gives employment
Unto thousands needing bread;
This, to add to your enjoyment,
Means the dying and the dead.

Wear the hat, then, *sans* the feather,
English women, kind and true;
Birds enjoy the summer weather
And the sea as much as you.
There's the riband, silk, or jewel,
Fashion's whims are oft absurd;
This is execrably cruel;
Leave his feathers to the bird!"

*A. E. Bendelack.*—The statement should be accepted *cum grano*. The system referred to is as yet on its trial.

*Mr. H. Francis.*—Any surgeon would advise in the matter.

### "SWEATING OF THE FEET."

*To the Editors of* THE LANCET.

SIRS,—Among the many remedies suggested for the cure of the above I do not see one which in my hands has always afforded relief. I mean the use of a foot-bath of nitro-hydrochloric acid. It need not be very strong, but just pleasantly acid. I am, Sirs, yours truly,

Sept. 13th, 1887. C. H., M.R.C.S.

### THE INTERPRETATION OF PAIN.

A LETTER, having the Ulverston postmark, has arrived without name or address.

*A Student* should put his question to the Secretary of the Royal College of Surgeons.

### THE STUDENTS' NUMBER: ADDENDA.

*University of Cambridge.*

THE following are the regulations for the examination in *Sanitary Science*:—An examination in so much of State medicine as is comprised in the functions of Officers of Health will be held in Cambridge on Tuesday, October 4th, and the three following days. Every candidate will be required to pay a fee of four guineas before admission to each part of the examination. Every candidate who has passed both parts of the examination to the satisfaction of the examiners will receive a diploma testifying to his competent knowledge of what is required for the duties of a medical officer of health. All applications for information respecting this examination should be addressed to Dr. Anningson, Walt-ham-sal, Cambridge. Candidates who desire to present themselves for examination in October next must send in their applications, and transmit the fees, to the Rev. Dr. Luard, Registrary, University of Cambridge, on or before Sept. 28th. Cheques should be crossed "Mortlock and Co." No fees can in any case be returned. The applications of candidates, whose names have not been on the register three years, should be accompanied by a certificate of birth, or other proof of age.

*Post-graduate Course.*—A course of instruction in laryngology, rhinology, and allied departments of medicine, for the benefit of gentlemen who have completed their medical curricula, will be commenced on the 20th inst. by Dr. Hunter Mackenzie, at the Eye, Ear, and Throat Hospital, Cambridge-street, Edinburgh. The course will extend over six weeks, and the fee will be £2 2s.

*H. F. P.* (Ostend).—For the required purpose there is no better treatise than the "Traité d'Hygiène Publique et Privée" of Bouchardat (8vo, pp. 1100, Felix Alcan, Paris, 1887). It is based on etiology, and this edition (the third) has been enlarged with notices of contagious diseases, cholera, rabies, &c. It ranks with the dictionaries of Littré and Robin, Delcambre, and Duval and Lereboullet for that skill in systematising so honourably characteristic of the French.

*Mr. G. E. FitzGerald* might apply to the Secretary of the Brussels Medical Graduates' Association, Dr. Pocock, 20, Golborne-road, Upper Westbourne-park.

### RIGHTS OF UNREGISTERED PRACTITIONERS TO PRACTISE AND SIGN DEATH CERTIFICATES.

*To the Editors of* THE LANCET.

SIRS,—It appears from the following correspondence that it is lawful for unregistered medical practitioners to practise in this country with impunity, and sign death certificates, which are received by registrars and simply entered as uncertified without further action being taken against the person who signs the certificate. I have written to the Registrar-General respecting a case which has recently occurred in my district. As medical officer of health I received a return of deaths from the Registrar wherein one death was entered as due to dentition and bronchitis, and no medical man's name attached. On inquiry from the district registrar, he produced a death certificate signed by a person giving the titles "Physician and Surgeon U.S. America." This person's name is not on the Medical Register. On explaining this case to the Registrar-General, I received the enclosed reply.

I am, Sirs, yours faithfully,

Atherton, Aug. 30th, 1887. BENJ. MARSHALL, L.R.C.P., &c.

"General Register Office, Somerset House,
"London, 29th August, 1887.

"SIR,—I am directed by the Registrar-General to acknowledge the receipt of your letter of the 26th inst., and to inform you that registrars are instructed that whenever any certificate or written statement of the cause of death signed by an unregistered medical practitioner is produced to them by an informant they are to treat the statement as part of the particulars tendered by such informant, and not to insert in the column headed 'Cause of Death' in the Register the words 'certified by' and the name and qualifications of the medical man, as they do when a registered medical practitioner has certified the cause of death. It would seem that in the case you mention the registrar had acted in accordance with his instructions. I may add that the form of 'Medical Certificate of the Cause of Death' issued from this Department is intended solely for the use of *registered* medical practitioners, and should not be supplied to one who is not registered.—I am, Sir, your obedient servant,

"EDWARD WHITAKER, Chief Clerk.

"B. Marshall, Esq., L.R.C.P., &c., Medical Officer of Health,
Atherton, Manchester."

### "A COURT PHYSICIAN BEHEADED."

THE *New York Medical Record* of Sept. 3rd prints the following:—"The Ameer of Afghanistan suffered not long ago from a boil on his neck, and sought relief at the hands of his court physician. The latter ordered some sort of a salve to bring the boil to a head. Unfortunately, the application caused the august patient considerable pain, and after a night of torture he sent for his physician and had him decapitated."

*A. A. Turner* should refer to the Charities Register and Digest, published by Longmans.

*Miss M'Kenna.*—We do not prescribe.

### A DAY IN THE COUNTRY.

THE lay press is now, as is usual at this season of the year, teeming with appeals from philanthropic institutes and individuals for funds to enable children in poor and squalid districts to enjoy for a few hours the pleasures and advantages of fresh air and rural scenery. It needs no words of ours to impress upon the benevolently disposed the immense benefit conferred on the class referred to by such outings. Those who are accustomed to the sight of green fields, and to the exhilarating effects of pure and bracing air, can only by an effort realise the delight experienced by young people, who for perhaps three hundred and sixty-four days in the year are deprived of such enjoyment, when the opportunity is afforded them of roaming in country lanes and plucking wild flowers along the hedgerows of smiling meadows.

*F. W. D. Evelyn.*—Unless there has been some recent change in the medical regulations of San Francisco, any medical graduate or diplomate from a British university or licensing corporation can practise there.

*G. P.* has not enclosed his card.

### CLIMATE AS A THERAPEUTIC AGENT IN PHTHISIS.

*To the Editors of* THE LANCET.

SIRS,—I was rather surprised to read a letter in your issue of July 9th, 1887, recommending Aliwal North, Cape Colony, as a residential health resort for Europeans suffering from phthisis, supported, too, by the case of a clergyman who came out "to die," but returned home after twelve months' residence at this little town a "new man." Dr. Lindsay recommends "dry inland resorts," but Aliwal North through the greater portion of the year has a damp atmosphere. It is situated upon the banks of a large South African river, *alias* one of the large natural sewers. This river sometimes rises twenty or thirty feet in a few hours, and sinks again as quickly, leaving large or extensive muddy banks and muddy bottom, covered with all sorts of filth, which is exposed to a semi-tropical sun. The town is intersected with numerous open water furrows in almost every street, the water from the "hot spring" purges; the town is bounded upon two sides by a brackish, marshy plain, and on the opposite side by the Orange River. I think I have written sufficient to induce persons who are anxious to try South Africa to make further inquiries before incurring the expense of visiting Aliwal North, Cape Colony. My knowledge is gained by residence. After travelling over a large portion of South Africa, I have come to the conclusion that to "settle" anywhere, or in any town, village, or upon any farm—as Dr. Lindsay suggests—is a mistake; it is far better to move about, or, as the Boers say, "Treck! treck!" Of course, a pause here and there where special benefit is experienced is the only exception to this advice; but phthisical patients are generally obstinate and peculiar and rarely follow to the full the physician's instructions, and when in Africa they rush about to consult this medical man or that medical man, for the fame of each practitioner is ever upon the tongue of the people they meet, pouring into the ears the wonderful cures effected and the marvellous benefits to be gained by living here or there. Again, another drawback to South Africa is that every up-country resident is a physician or surgeon in his or her own way; these people are ever ready to prescribe root, herb, or other nostrum as a specific for the sufferer's disease; they generally have a long list of wonderful recoveries, to be shown to the unfortunate patient who is weak enough to submit to these "doctors." The climate of South Africa generally benefits phthisical cases on first arrival, and here and there are some good examples of permanent benefit; but, I repeat, to secure all the benefits this climate is capable of giving, you must travel, as a rule avoiding towns and villages; of course, using ordinary precautions against sudden changes in the weather; and travelling is very enjoyable even over African plains, and not expensive either.

I am, Sirs, yours truly,

South Africa, Aug. 11th. S. CARTWRIGHT-REED, M.D., F.R.C.P.Ed.

### INFANTILE DIARRHŒA.

*To the Editors of* THE LANCET.

SIRS,—In your issue of Sept. 3rd you refer to Dr. Vaughan's work on the production of the poison tyro-toxicon in milk and cheese, and as to its frequent cause of choleraic diarrhœa in children. I have noticed that, in the summer months particularly, choleraic diarrhœa in children is most benefited by antiseptic treatment, and is often cured by changing from fresh to condensed milk. I have had a very large number of cases recently, and on inquiry found that the milk was got from dairies where the cows were fed on what is known as "draff," which is the refuse of breweries. This "draff" is kept in barrels for several days, and often when given to the cows has undergone a second fermentation. I have recommended, with success, that the children be fed on milk procured from the country where no "draff" is used; failing this, on condensed milk. The improvement is always most marked, and generally in a few days, with other appropriate treatment, recovery is complete. Boiling the milk, of course, improves it, but yet a complete change to healthy milk is more reasonable. Dr. Vaughan suggests that no milk be used where choleraic diarrhœa occurs; but I think if the precaution be taken which I have suggested there can be little danger from the use of the child's natural food.

I am, Sirs, yours faithfully,

Hawick, Sept. 10th, 1887. JOHN R. HAMILTON, M.D.

### THE ALT-SCHERBITZ.

IN the *International Record of Charities and Correction* for August Dr. Frederick Peterson gives a short description of the above asylum, in which the treatment of the insane is conducted on the village or cottage plan. The institution is, as some of our readers are aware, situated a few miles from Leipzig, and is, in the opinion of the writer, cleaner and better appointed than Gheel. All the occupations common to other establishments of the kind are in vogue here. Farming is, of course, the chief employment. But there are blacksmith, shoe, and carpenter shops, and, not the least interesting feature, a brick-yard. The patients have not only made all their own brick and tiles, but they sell large quantities. There is a large theatre in a separate building, where dramatic entertainments, concerts, &c., are given, joined in by both sexes. A bowling-alley is, of course, to be found here, as in most German asylums. A swimming-bath has also been constructed. "The freedom of the patients is very great, and there is no depressing aspect about the colony at all—nothing to constantly remind outsiders and insiders of the usual coercive nature of such institutions. All of the villas, both for men and women, and all of the dormitories connected with the dairy, the laundry, the kitchen, the workshops, and all of the houses of the little hamlet, have unlocked doors and unbarred windows. There are no bars on any windows in the whole establishment."

*A Union Medical Officer* would not be justified in refusing to act upon the order of the relieving officer. He has the opportunity afterwards of laying the case before his board if he considers he ought not to have been called upon to treat it.

*Questio.*—The arrangement mentioned would be unsatisfactory and, in a legal sense, unsound. We could not advise it as a permanent one.

*Mr. W. J. Merlin* (Sutton).—Mr. J. Offord, 67, George-street, Baker-street, W.

*Dr. J. W. Fraser* (Liverpool).—If possible, next week.

*G. S.*—The problem cannot be said to have as yet received a solution.

### CASE OF PLACENTA PRÆVIA.

*To the Editors of* THE LANCET.

SIRS,—The fact of the following case being the fifth of the kind which I have treated with satisfactory results may perhaps entitle me to ask for the favour of its insertion in your columns.

On Aug. 30th, I was called in to attend Mrs. R——, aged forty-four; four children. On arrival, I found slight hæmorrhage, no pain. The os was dilated to the circumference of a shilling. Her history showed that the last period of menstruation was on Jan. 2nd; nothing unusual was noticed until the latter end of June, when there was slight hæmorrhage; again in July severe flooding came on, and continued for three days, and on this day, Aug. 30th, hæmorrhage had continued more or less severe from 4 A.M. until they sent for me at 10 A.M. I saw the patient again at 4 P.M. Hæmorrhage and pains increasing. At 6 P.M. her condition continuing nearly the same, I plugged the vagina. At 8 P.M. labour pains having increased, I removed the plug, and gradually dilated the os by digital distension. At 9 P.M. I gave a drachm of fluid extract of ergot. The hæmorrhage was now severe; pains only slight; os dilatable to the extent of a crown piece. My colleague, Dr. Follows, calling in at this moment to see me, kindly administered chloroform. Passing my hand into the uterus by gradually insinuating my fingers betwixt the uterine wall and the placenta, I ruptured the membranes, and, passing my hand along its abdominal surface, seized the child's feet, and brought them without the pelvis. Labour was completed in about ten minutes. The child was alive. The ergot given at 9 o'clock produced rapid contraction, and the placenta was expelled without difficulty. The after hæmorrhage was only slight. Examination of the placenta showed it to have had a central attachment. Mother and child are now doing well.

I am, Sirs, yours respectfully,

Liverpool, Sept. 13th, 1887. JOHN OLDERSHAW, L.K.Q.C.P.I.

### THE CONSUMPTION OF TEA AND COFFEE.

ACCORDING to the recently published report of the Commissioners of Customs the consumption of coffee in the United Kingdom during the last ten years has been, on the whole, decreasing. In the year 1877 the quantity of coffee consumed reached 32,286,016 lb., but in 1886 the total amount had fallen to 31,608,304 lb. It is noteworthy, however, that the use of chicory has not declined in corresponding ratio. On the other hand, the consumption of tea has largely increased in the last decade. Thus, in 1877 the quantity of tea consumed amounted to 151,274,852 lb., whilst in 886 the total had risen to 178,900,881 lb.

*Enquirer.*—A paper on the subject appeared in THE LANCET of Nov. 20th 1886.

*Ambulance* might with advantage consult Roberts' Illustrated Lectures, 1st Edition, published by Lewis, Gower-street.

*Dr. W. W. Skinner* (Paris).—We are unable to promise the insertion of the paper.

*H. M. P.*—Fuller particulars of the case should be given.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Byrom Bramwell; Mr. Anderson Critchett; Dr. Braxton Hicks; Mr. Hart Robertson, London; Mr. W. Bruce Clarke, London; Mr. Oldershaw, Liverpool; Mr. F. W. Evelyn, Belfast; Mr. W. H. Brown, Leeds; Dr. C. M. Campbell, London; Mr. G. E. Moffatt, Gibraltar; Mr. Collis Barry, Netley; Mr. G. W. Hambleton, Manchester; Messrs. Ingram and Royle, London; Dr. A. Mann, Chester; Messrs. Chapman and Son, Holloway; Dr. E. F. Wells, Chicago; Messrs. Whittaker and Co., London; Mr. T. Christy, London; Mr. E. R. Williams, Forest Gate; Mr. E. H. Fenwick, London; Mr. R. D. McNicoll; Dr. Robert Kirk, Partick; Surgeon-Major A. B. R. Myers; Messrs. Laddon and Wilson, Birmingham; Mr. W. Young, Brixton; Messrs. Knight and Co., London; Mr. Browne, London; Mr. Ormond, Bath; Messrs. Boyd and Co., Belfast; Dr. G. C. Lippincott, Washington; Messrs. Cooke and Son, London; Dr. E. F. Willoughby, London; Messrs. Bremner and Co., London; Mr. M. C. Corner, London; Messrs. Evernett and Son, London; Mr. A. J. Propert; Mr. Fraser, Dublin; Messrs. Gurney and Jackson, London; Mr. Robinson, Leamington; Messrs. Christy and Co., London; Dr. J. R. Hamilton, Hawick; Mr. Supper, Quorndon; Dr. Maxwell, Woolwich; Mr. Baker, London; Mr. Barton, Hollington; Mr. Antoine, Paris; Mr. Lawrence, Pentrego; Mr. Ruch, Pontypool; Mr. Sladden, Dover; Mr. Burdett, London; Dr. Dobell, Bournemouth; Mr. Unsworth, Liverpool; Mr. Childe, Drighlington; Mr. Blackstone, Bradford; Mr. Dennis, Hartford, U.S.A.; Dr. Blodge, Mass., U.S.A.; Dr. Macdonald, Dorchester; Messrs. Smith and Son, Manchester; Dr. Mackenzie, Edinburgh; Mr. Bleasby, New York; Dr. Pierce, Liverpool; Mr. Macfadyen, Kinguesie; Mr. Nance, Norwich; Mr. Mundy, Hampstead; Mr. Erval, Glasgow; Dr. Newry, Edinburgh; Mr. Willing, London; Mr. Townsend, Exeter; Mr. H. C. Gillies, Brockley; Mrs. Hitch, Hollington; Dr. Wagner, Plymouth; Mr. J. E. Jones, Bangor; Mr. C. F. Goode, Brighton; Dr. Adams, Bedford; C. H.; Greta; A Constant Subscriber; S. P., Bristol; X.; G. H. H., Canonbury; J. B.; M.B. Edin.

LETTERS, *each with enclosure*, are also acknowledged from—Dr. Skinner, Paris; Mr. Daniel, Newcastle-on-Tyne; Mr. Nicholas; Mr. Bates, New York; Mr. Olivier, Salisbury; Mr. Slapper, Chepstow; Messrs. Smith and Son, Birmingham; Mrs. Ellis, St. Leonards; Mr. Cooper, Great Broadley; Mr. Guest, Melsonby; Mr. Holloway; Dr. Buchanan, Glasgow; Mr. Ternan, Warrenpoint; Mr. Williams, Bridgend; Mr. Wheeler, Fakenham; Dr. Weller, Hammersmith; Mr. Gross, London; Mlle. Anet, Halesworth; Mr. Allsop, Shipley; Mr. Jones, Cardiff; Dr. May, Hanwell; Mr. Wormall, Manchester; Mrs. Grace, Brighton; Mr. Brash, Exeter; Mr. Cole, Bardisley; Messrs Porteous, Glasgow; Mrs. Mahony, Preston; Mr. Fyffe; Mr. Kenny, St. John's Park; Mr. Keeling, Birmingham; Mr. Saunders, London; Mr. Robinson, Leamington; Medicus, Reading; A. B. C.; Medicus, Hull; A. Z., Ipswich; Medicus, London; T. H. J.; M.D., Crewe; Lady Superintendent, Canterbury; Medicus, Forest-hill; W. H. K., Limehouse; Haste; X., Leicester; J. C. M., Taunton; M. C. D.; Lady Superintendent, Burton; Medicus, Pontypool; F.R.S.; Bee; Beta, Plymouth; M., Mitcheldean; G. C., Southsea; M. A. M. B.; Surgeon, Peckham; Cantab; R., Perrin; Surgeon, Halifax; E. B. H.; Fides, London; B.M.; Edward; H. B.; A. M.; C. X. F.; Yorks; Surgeon, Rhondda.

*Advocate of India, Retford, Worksop, and Gainsburgh News, Temperance Caterer, L'Hotel de Ville, The Naturalists' Monthly, Liverpool Courier, Industries, La Semaine Medicale*, &c., have been received.

# Medical Diary for the ensuing Week.

## Monday, September 19.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10.30 A.M., and each day at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M; Thursday, 2.30.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesday, 2.30 P.M.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITALS.—Operations, 2 P.M., and each day in the week at the same hour.

## Tuesday, September 20.

GUY'S HOSPITAL.—Operations, 1.30 P.M. and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2.30 P.M.; Saturday, 2.30 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M.

## Wednesday, September 21.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesday and Thursday, 1.30 P.M. Surgical Consultations, Thursday, 1.30 P.M.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Saturday, 2 P.M. Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
KING'S COLLEGE HOSPITAL.—Operations, 3 to 4 P.M.; Friday, 2 P.M.; Saturday, 1 P.M.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9 A.M.; Saturday, same hour.

## Thursday, September 22.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
NORTH-WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

## Friday, September 23.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

## Saturday, September 24.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.


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An original and novel feature of "THE LANCET General Advertiser" is a special Index to Advertisements on page 2, which not only affords a y means of finding any notice, but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

Terms for Serial Insertions may be obtained of the Publisher, to whom all letters relating to Advertisements or Subscriptions should be addressed.

Advertisements are now received at all Messrs. W. H. Smith and Son's Railway Bookstalls throughout the United Kingdom and all other dvertising Agents.

Agent for the Advertising Department in France—J. ASTIER, 66, Rue Caumartin, Paris.